



Broca's Area

The Voice of Texas Neurology

President's Message

Jerry J. Bettinger, MD



Dear Fellow Members,

Just last week I was involved in a spirited discussion with one of our colleagues over the rational use of supplemental therapies for neurologic disorders; unfortunately, it ended in a stalemate. I encourage these interactions among physicians because they are usually learning experiences. In fact, this was the prime motivating factor for me getting involved with The Texas Neurological Society and becoming a board member. Our collective mission is to improve neurologic care to our patients and the TNS has developed a great reputation as being one of the strongest societies toward that end. Our two annual CME conferences are as good as you can get, and it's right here in Texas. The board members will continue to organize and produce the most meaningful and useful educational lectures by the best speakers we can find anywhere in the country.

Each of us is a leader in our own community; collectively we are the leaders in the state as well. We have established the standards of neurologic practice in Texas and we need to continue to work together to elevate our standards as high as possible. This will be a challenging endeavor because the evolutionary forces in motion now are too strong to change. Government mandates, state politics, and ever-changing practice patterns keep all of us uncomfortable. The Profession of Medicine is ill; it has been dying for some time. We have been relegated to the level of "patient care providers;" simply a euphemism for employee. That means someone else will tell you what to do on many levels. Think about that for a moment.

Week before last, Bill Gilmer, Sara Austin, Tommy Yee, Rachael Reed, and myself were in Austin for First Tuesday's representation of the interests of the TMA and TNS. That was an eye opener for me. The efforts of the TMA lobbyists and the doctors definitely made a difference on some issues facing the Texas Legislature right now. The TNS has many areas that we need to protect and a continued presence in that process is vital to all our futures. We physicians have generally lost control of our own destinies. Can we ever regain it? I don't know but we have to remain involved in the fight. Call or e-mail your local Senators or State Representatives and let them know what they need to do to help us preserve medical practice in Texas. Accountable Care Organizations, mega multispecialty clinics, and giant hospital systems still need us to further their goals; be absolutely sure that your own interests are protected before you sign up.

We have created a committee for Medical Economics in the board. I'm hoping that this committee will be able to develop leadership for our members in matters such as coding, billing, and practice management and development. Our first meetings have been very enthusiastic and I believe it will become a very useful part of the TNS and benefit us all. Each board member has contributed a lot of time and personal effort to make our society prosper; to each I give my personal thanks for their assistance. Be sure and try to make the Summer Conference this July in San Antonio. The focus will be Epilepsy and the program looks great.

Thanks to all for allowing me the privilege of being your President.



Mark Your Calendar!

**2011 SUMMER
CONFERENCE
July 15-16
Westin la Cantera
San Antonio**

(More details on page 2)



TNS 8th Annual Summer Conference Preview

Want to combine luxury, outdoors, water, golf and good science? Mark your calendars for the TNS Summer Conference, July 15-16 at the Westin La Cantera in San Antonio. There will be a focus on Epilepsy on Friday. The second day will touch upon neuromuscular disease, neuro-oncology, telemedicine and stroke.

We have an extra opportunity for you on Saturday afternoon. All attendees are encouraged to participate in an interactive Grassroots Advocacy Seminar. If you would like to learn how to get involved in the legislative process and advocate on behalf of your patients, you really should take advantage of this opportunity. TNS is bringing in professional trainers to walk you through the process with relevant examples. We will also have media training where you can practice your sound bites and hone your skills. We hope to see you at this valuable seminar.

We are hoping to see you there. It's a great way to learn what's new in neurology, get CME, and have a relaxing weekend at the same time.

Book your hotel room by June 22 to take advantage of the reduced rate: go to www.texasneurologist.org.

Editor's Notes

Randolph W. Evans, MD

I thank all of our contributors for their excellent submissions. We look forward to seeing you at the summer conference. Dr. Leroy and the education committee have put together a terrific program which you'll really enjoy.

My daughter just received her PhD from Rice University in psychology which made me particularly happy as an alumnus. Sitting through the beautiful Saturday morning commencement, I reflected about what undergraduate courses were pertinent to clinical neurology. Most were not specifically useful although the love of learning and critical analysis are invaluable. Curiously, the one subject I took at the last minute for 2 semesters, Spanish (and speak poorly) is the one that I often use. Also, the typing skill I learned from a junior high school class is something I use all day long.

The commencement speaker was David Brooks, the New York Times columnist. His subject was happiness. I was thinking about our professional happiness. Although most of us are very happy as neurologists, we have become increasingly unhappy with the practice of medicine due to issues large and small ranging from decreasing reimbursement to loss of autonomy to bothersome patient behaviors.

Many of you participated in our survey on bothersome patient behaviors (Evans RW, Evans RE, Evans RI. A survey of neurologists on bothersome patient behaviors. *Medscape General Medicine* 8(4):35-43, 2006; available at http://www.medscape.com/viewarticle/546878_4). Your top 5 bothersome behaviors were the following: no show for appointment; verbally abusive with your staff; poor compliance with medications or treatment; late for appointment; and do not know the medications they are taking.

We're not the only ones, of course, as everyone is subject to bothersome behaviors of others. There is a new book by Palca and Lichtman, "Annoying: the Science of What Bugs Us," which discusses bothersome or annoying behaviors of strangers, friends, and spouses such as uncouth habits, inconsiderate acts, intrusive behaviors, and norm violations. Consider public cell phone conversations, someone kicking your chair, babies crying in public, someone picking their nose, clipping fingernails in public, car alarms that don't stop, and a buzzing fly.

Similarly, more research should be devoted to what bugs physicians and detracts from the care of our patients including precertification forms for medications (consider one insurer only allows FDA on label use, another wants you to use a generic for off-label use), imaging pre-certs, meaningful use requirements for EHRs (which are certain to grow and have questionable meaningful use), and increasingly complicated coding. (Many things are more complicated without clear benefit. Does the maze of recertification improve patient care?). Payors want to save money and set up human speed bumps and the feds want to analyze our behavior with EHRs. Shouldn't we be compensated for our time for all of these increasing mandates? More importantly, will there be any time left for the physician and patient?

2011 Winter Conference a Huge Success

The 14th Annual Winter Conference of the Texas Neurological Society took place at the Austin Hyatt Hotel from February 25-27, 2011. Attendance was an all-time high of 330 registrants. The program covered a wide variety of neurological topics and provided up to 18 hours of quality CME for a bargain registration fee. Thank you to the education committee and to Alan W. Halliday, MD, program director, for organizing this meeting. Special thanks also to Marvin Fishman, MD and Gary Clark, MD for directing the pediatric session.



Jerry Bettinger, MD, current President, and Tommy Yee, MD, Past-President.

The new officers of the TNS were voted in by the membership.

Congratulations to the following:

President: Jerry Bettinger, MD

President-elect: Sara G. Austin, MD

Vice president: G. Mark Schwartze, MD

Secretary-treasurer: Kim Monday, MD

Members-at-large: Erin Furr-Stimming, MD and Deborah Carver, MD

Many thanks to Alan W. Halliday, MD; Eddie Patton, MD; Mark Pretorius, MD and J. Doug Hudson MD who completed their terms as board members.

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2011 Summer Conference • July 15-16
Westin la Cantera • San Antonio

2012 Winter Conference • February 3-5
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Congratulations!

With distinct pleasure, this year TNS presented its Lifetime Achievement Award to William H. Fleming, III, MD.

The TNS Lifetime Achievement Award is a peer-recognition award honoring members in the state for outstanding service to patients and to the profession. There are many neurologists in the state of Texas who have played enormous roles in the development of the practice of Neurology. This award will continue throughout the years to honor those physicians who have had great vision and have worked selflessly to advance our specialty on behalf of our patients and our colleagues.

TNS is now accepting nominations for its 2012 Lifetime Achievement Award. Go to www.texasneurologist.org to submit your nomination.

William H. Fleming III, MD

William H. Fleming III, MD has been a practicing neurologist in Houston, Texas since 1979, where he is now a partner in Memorial Neurological Association. Dr. Fleming was President of the Texas Neurological Society from 2001 to 2002 and is a life member.

Dr. Fleming is a native of Memphis, Tennessee. Before entering medical school, Dr. Fleming served in the United States Air Force during the Vietnam era, from 1967 to 1970, and was honorably discharged with the rank of Captain. He earned his medical degree from Saint Louis University School of Medicine in Missouri, and completed his internship at Montreal General Hospital in Canada in 1976 and his residency at Mayo Clinic in 1979. Dr. Fleming is also licensed in Minnesota, Wisconsin, and California. He joined Memorial Neurological Association in 1979 and is certified by the American Board of Neuromuscular and Electrodiagnostic Medicine.

Dr. Fleming has served on numerous hospital committees at the local level, and has served on the Board of Directors of several hospitals in the Houston area. He is a Clinical Assistant Professor on the Volunteer Faculty of the Department of Family Practice Community Medicine and Neurology at The University of Texas Health Science Center at Houston, which he has done since 1992. He is a former member of the Board of Trustees of the Memorial Hermann Foundation. He previously served as Chief of Neurology at Memorial Hermann Hospital Southwest and Co-Director of the Neuroscience Unit. He served as Chief of the Medical Staff at Bellaire General Hospital from 1990 to 1991. Dr. Fleming is a past member of the Board of Trustees of the Houston Grand Opera. Dr. Fleming is a former member of the Board of Regents of Texas Women's University. He is currently on the Board of Trustees of Memorial Hermann Health Network Providers. Dr. Fleming served as President of the Harris County Medical Society in 2002. At that time, the society had over 9,000 members, making it the largest medical society in the country. He has served on the Executive Board of the Harris County Medical Society, and he is a Past President of the Houston Academy of Medicine. He has also served as President of the Harris County Medical Society, Southwest Branch, and he has served on numerous committees within the Harris County Medical Society, including the AIDS Education Committee, the Medical Legislative Board, the Membership Committee, the Medical Precepts Committee, the Public Service Communications Committee, and the Ethics Committee. He is a past member of the Board of Trustees of the Museum of Health and Medical Science and currently serves on the Advisory Board.

Dr. Fleming is a TMA delegate to the American Medical Association. He is a former Speaker of the House of Delegates for the Texas Medical Association. At the state level, he has served on the Texas Medical Association's Council on Legislation. Dr. Fleming has been awarded the title of Texas Super Doctor by Texas Monthly magazine since 2005 and Top Doctor by Houston magazine in 2007. He is the immediate Past President of the Texas Medical Association and currently serves on its Board of Trustees. Dr. Fleming served on the Texas State Board of Medical Examiners from 1990 to 2002. He served as President from 1992 to 1993 and from 1995 to 2001. He is a Past President of the Federation of State Medical Boards of the United States, and a Past Chairman of the FSMB/NBME Composite Committee. In 2003, Dr. Fleming received the Federation of State Medical Boards Distinguished Service Award, one of the highest awards in that organization. He has served on the Ad Hoc Committee for Postgraduate Assessment, the Bylaws Committee and the FSMB/NBME Assessment Center Advisory Committee. In addition, he has chaired the Special Committee on Healthcare Fraud. Dr. Fleming was a speaker at the FSMB annual meetings in 1994 and 1996, and he served on the Reference Committee at the 1994 annual meeting. He is a former member of the National Board of Medical Examiners, representing the Federation of State Medical Boards. He has served as the Chairman of the Reciprocal Endorsement Committee and the Standing Orders Committee of the Texas State Board of Medical Examiners. He currently serves on the TMLT Claims Review Committee.

In his personal time, he enjoys sailing and Alpine skiing. Dr. Fleming and his wife, Cheryl, have a daughter, Bria.

Economic Credentialing by Insurance Companies

Stuart B. Black MD, FAAN

In an attempt to lower expenditures and give incentives for patients to choose physicians who may offer lower cost care on the basis of physician profiling, economic credentialing has become more common in the marketplace. As physicians are assigned to tiered provider network categories there remains much concern that the criteria used for selecting doctors based on cost effectiveness has no relationship to the quality of care or physician competence. Recently the RAND Corporation, a nonprofit institution which focuses on improving policy and decision making through research and analysis, published two studies indicating that the current cost profiling systems used by the insurance industry "...may produce misleading results". In the 18 March 2010 issue of The New England Journal of Medicine, it was stated that "Consumers, physicians, and purchasers are all at risk of being misled by the results produced by these tools." In the 18 May 2010 issue of Annals of Internal Medicine, RAND stated "We found that, compared with the most commonly used rule, 17% to 61% of physicians would be assigned to a different category under an alternative attribution rule." The studies indicate that while a large percentage of physicians are misclassified, in some specialties physicians are misclassified two-thirds of the time. The RAND Corp researchers, who are funded in part by the Dept of Labor, further demonstrate that the tiering programs used by national insurers are flawed and do not accurately measure a physician's performance. Following these reports, the AMA, in conjunction with a large number of state medical societies, sent a letter to 47 insurers nationwide calling for an outside entity to formally re-evaluate cost profiling programs because of "...serious flaws in the attempts to rate individual physicians based on economic criteria."

In May 2009, House Bill 1888 passed the Texas Legislative Session. HB 1888 provides required standards for certain rankings by health benefit plans. In addition to objective measurements or performance standards, the data used to establish the rankings must be made available to the physician prior to publication. If requested, the physician also must be given a fair hearing by the health care plan also prior to the publication of the ranking or tiering. Nationally recognized standards for ranking must be evidence-based and include criteria recognized by "...organizations that establish or promote guidelines and performance measures emphasizing quality of health care..." Such organizations include the National Quality Forum (NQF) and the Ambulatory Care Quality Alliance (AQA Alliance). If neither the NQF nor AQA Alliance is used, "...the commissioner shall consider standards, guidelines, and measures based on other bona fide nationally recognized guidelines, expert based physician consensus quality standards, or leading objective clinical evidence and scholarship". TNS physicians are encouraged to read HB 1888 which can be downloaded from the internet. The Texas Medical Association has also developed a "Toolkit" to help physicians challenge unfair rankings. The TMA Toolkit which follows is an excellent guide for organizing an appeal if a physician is unfairly ranked or tiered by a health care plan.

continued

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Basic Steps for Reviewing and Disputing Physician Rankings and Tierings in Texas under [Chapter 1460, Insurance Code](#)

Step 1: Collect and review all letters and documentation received from the health plan regarding your ranking or tiering.

Reviewing the plan's paperwork will enable you to follow the other steps referenced in this document (as well as those steps that are specifically required by your individual plan).

Step 2: Determine whether your plan is subject to the requirements of Texas law (i.e., Insurance Code, Chapter 1460) on physician ranking and tiering.

- Under Texas law, most health benefit plan issuers (e.g., insurance companies and HMOs) and their affiliates or subsidiaries are not permitted to rank, tier, or compare physicians without following certain basic requirements (discussed in more detail below).
- Texas' physician ranking law, however, does not apply to rankings performed by a Medicaid program, a Medicaid managed care program, CHIP, Medicare Advantage plans, or a Medicare supplemental benefit plan. If the plan/program that is ranking you is one of the exempted groups, please follow the appeals process as noted in the plan's documentation.

Step 3: Determine the basis for your appeal, if possible, or request more information. The following are examples of grounds for contesting a ranking/tiering under Texas Law.

- The ranking is based upon inaccurate data (e.g., wrong patient data);
- The ranking is based solely on cost measures (rather than cost measures used in conjunction with quality measures as is required under Chapter 1460 of the Texas Insurance Code);¹
- The standards and measurements used were not disclosed to you *before* the evaluation period for the ranking (as is required under Chapter 1460).² Instead, the standards and measures were applied retroactively and based upon old data.
- The standards and measures used in the program fail to comply with the hierarchy of standards established under the law and the regulations.³

¹ See 35 TexReg 3843 in which the Texas Department of Insurance states that "the Department further agrees that the reference to the CPDP provides insight into the background of HB 1888 and that a health benefit plan issuer ranking system based solely on cost would not be compliant with the adopted rule."

² See Tex. Ins. Code §1460.003(a)(3).

³ Note that 28 Tex. Admin. Code §21.3202(d)-(f) provides that a health benefit plan issuer (HBPI) that uses a physician ranking system is required to first follow the endorsed measures, guidelines and standards of the NQF or the AQA Alliance. If neither NQF nor AQA Alliance has an endorsed measure, guideline, or standard regarding an issue, then the HBPI must follow the endorsed measures, guidelines, and standards of the NCQA and other similar national organizations. If the NQF, AQA Alliance, or other national

- The program did not have physicians currently in clinical practice actively involved in the development of the standards used in the comparison program (as is required by Texas Insurance Code §1460.006);
- The measures and methodology used in the comparison program are not transparent and /or valid and are, therefore, in contravention of Texas Insurance Code §1460.006.

Step 4: Initiate the appeal/dispute process. Under Texas law, each physician is afforded, before the publication or other public dissemination, of a ranking, an opportunity to dispute the ranking through a process that includes certain due process protections (as noted below).

- **Request data/information pertinent to the ranking/tiering.** If you have not been provided with enough information to analyze and/or adequately challenge your ranking, request the additional data that is needed.
 - Under Texas law, the health plan is required to provide at least 45 days' written notice to the physician of the proposed ranking, "including the methodologies, data, and all other information utilized by the plan ..." in its ranking/tiering.
- **Request a review/fair reconsideration proceeding within 30 days of receiving notice of the ranking** (along with the information utilized by the plan in its ranking decision).
 - If timely requested, the plan must provide (in addition to any written fair reconsideration process) a fair reconsideration proceeding, which may be conducted (at the physician's option): (1) by teleconference, at an agreed upon time; or (2) in person, at an agreed upon time, or between the hours of 8a.m. and 5p.m. Monday through Friday.
- **Prepare for the fair reconsideration proceeding.** Under Texas law, the physician has a right to provide information at the requested proceeding, have a representative participate in the proceeding, and submit a written statement at the conclusion of the proceeding. To most effectively challenge a ranking, the physician should prepare all the necessary information/statements in advance.
 - Texas law requires the plan to provide a written communication of the outcome of the proceeding (including the specific reasons for its decision) prior to any publication or dissemination of the ranking.

Step 5: If you believe that a health plan has not adhered to the requirements of HB 1888, you may file a complaint with the Texas Department of Insurance.

- Email: ConsumerProtection@tdi.state.tx.us
- Mail: **Texas Department of Insurance Consumer Protection (111-1A)**
P.O. Box 149091
Austin, Texas 78714-9091
- Fax: **(512) 475-1771**

organizations (including NCQA) have not established standards or guidelines regarding an issue, then the HBPI must follow measures, guidelines and standards based on other bona fide nationally recognized guidelines, expert-based physician consensus quality standards, or leading objective clinical evidence and scholarship standards adopted by the Commissioner (after petitioning for rule-making with the Department to request that the Commissioner consider adopting other bona fide nationally recognized guidelines, expert-based physician consensus quality standards, or leading objective clinical evidence and scholarship standards for use in the HBPI's physician ranking system). See 35 TexReg 3841.

Stuttering: An Exemplar of Disrupted Motor Control

David B. Rosenfield, M.D.

Director, Speech and Language Center; Director, EMG and Motor Control Laboratory; Neurological Institute,
The Methodist Hospital; Professor, Weill Medical College of Cornell University

Introduction

The recent movie, "The King's Speech," has highlighted interest in stuttering. It is striking how long the realm of abnormal speech, as opposed to abnormal language and classical dysarthria, failed to enter the neurology literature. Neurologists now focus increasing attention upon how brains produce actual motor aspects of speech and, hopefully, this will lead to enhanced understanding and care of our patients.

People throughout time have stuttered, ranging from the above-noted King of England to a neighbor down the street. Stuttering is a global, pan-cultural disturbance that has been with us throughout time. At issue, is why do people stutter? A ten year-old child who stutters might be terrified to stand in front of his fifth grade class to present a book report, due to his fear of stuttering, yet is just as nervous when asked to sing but is fluent in this task.

All stutterers are fluent when they sing. Why? Further, why is the location of stuttered dysfluencies non-random (i.e., one never hears a stutterer say, "Where is the hospital-l-l-l?") Rather, "Wh-Wh-Where is the hospital?")? Also, there is a marked increased prevalence of stuttering among males versus females, the concordance of stuttering among fraternal twins is approximately 20%, yet among identical twins 90%, highlighting a strong genetic component to stuttering. Thus, as opposed to "The King's Speech," a movie which implies something happened to the king to make him stutter, data suggest there is something within the king that made him stutter.

Were one able to understand why people stutter, one would better understand why most people do not stutter. An improved understanding of the dynamics of the Speech Motor Control System (SMCS), both normal and abnormal, would enhance our understanding of language (e.g., grammar, semantics, phonology) and provide more effective therapies for those afflicted with purely disordered speech or disrupted language (e.g., from stroke, tumor, trauma, infection, etc). And, an improved understanding of the physiology of language would increase our knowledge of cerebral processing of "thought," consciousness and other realms of cognition.

Clinical and Research Findings

Recently, neuroscientists have expanded their knowledge about the SMCS. This system, incorporating cerebral hemispheres, brainstem, and input and output to the auditory, respiratory and phonatory (i.e., larynx) systems, is complex with multiple intrinsic and extrinsic feedbacks. Disruption of the SMCS in stutterers permits them to know what they want to say, but makes them unable to do so. Their language is normal—their speech is not. Stuttering has been with us throughout time. Ancient Mesopotamian clay tablets, Egyptian hieroglyphics, the Old Testament (Moses stuttered) and the Holy Koran refer to stuttering. Stuttering is referenced in all languages, occurs in all cultures and afflicts people from all socioeconomic

brackets throughout the world. At least 1.1% of all adults stutter, and four percent of young children stutter. Eighty percent of children "outgrow" their stutter, but 20 percent do not.

There are many definitions of stuttering. From a practical perspective, if a child stumbles on a particular sound, is that a stutter? If the child struggles while stumbling on that sound, does that constitute stuttering? If the child stumbles, struggles and now substitutes another word for the word causing difficulty, is that more of a stutter? When a stutterer says, "b-b-b-ook," is the "stutter" on the "b" (if so, he just said it several times) or on the transition into "ook"?

The definition of stuttering can be quite perplexing and at issue is the locus of compromise. How one defines these issues determines paradigms in scientific investigation, clinical scoring pertaining to investigation and therapy, and colors perspective as to what abnormality researchers are actually investigating.

Again, the basic fact is that stutterers know what they want to say and but are unable to do so. They have normal language, are not aphasic, but have disruption in their SMCS output. The location of their stuttered dysfluencies is not random, their dysfluent output becomes more fluent with repeated readings or utterances of the passage (e.g., "adaptation"), the dysfluencies pertain to part-words and seldom whole words, there is often a strong family history (see above comments regarding genetics) and the stutterer never stutters when he sings.

The stutterer's SMCS functions normally when the individual is breathing, sneezing, coughing, chewing, sucking, swallowing or... singing! However, once the "loop" of language enters the equation and the SMCS now has to interface with language, the individual is rendered abnormal and stutters.

Another interesting finding in stuttering is that the stutterer can stop stuttering by simply stopping talking. The stuttered dysfluency only occurs if the individual is trying to produce the difficult sound. Some stutterers can "wait out the block"; a listener may not hear a pronounced stutter and believe that individual is fluent (e.g., "closet stutterers").

As noted above, it is difficult to identify the locus of the actual stuttered dysfluency. When a stutterer says, "s-s-sleep," is the dysfluency on the /s/ sound? If so, the individual said the /s/ several times. Our laboratory contends the actual difficulty is the transition into /leep/. Thus, the problem of stuttering does not directly pertain to what the listener hears but, rather, to what the speaker produces as he tries to manage the transition from one sound to the other. In other words, the stutter is not the problem but, rather, the response to the problem. Several fluency-evoking maneuvers are effective in stuttering. The most effective maneuver is singing. On a clinical level, singing must represent a different type of processing within the SMCS. Some people may be skilled in singing yet lack similar skills in speaking, and the opposite is also true. Neurologist

recognize different parts of the brain participate differently in language (i.e., left hemisphere, Broca's area, Wernicke's area, etc) versus singing and rhythm of speech (e.g., perhaps similar portions of right hemisphere). Also, there are numerous reports highlighting acoustic differences between the spoken word and singing.

Repeated verbalized reading of the same passage improves fluency in fluent adults anticipating a speech as well as in stutterers doing the same. The effectiveness of rehearsal mandates the rehearsed output be vocalized, not whispered, lip-read or read silently. Practicing speech tasks results in improved functioning of the SMCS only when practice involves iteration of actual verbal output. From a SMCS perspective, effectiveness of verbal rehearsal is consistent with numerous putative models of motor control: practice does make perfect.

Choral reading, referring to reading a passage while others simultaneously read aloud the same passage, also improves fluency. There are multiple theories regarding this robust finding, suggesting auditory input positively affects the motor output.

Speaking in cadence with a metronome, thus adding a particular rhythm to verbal motor output, effectively enhances fluency. Theories pertaining to effectiveness of this maneuver include slowing down the motor task and altering the output such that the stutterer no longer actually produces normal speech but, instead, has added a new function—strong, particular rhythm.

Another effective fluency-evoking maneuver is playing loud broadband noise, prohibiting the individual from hearing any of his output. Delayed Auditory Feedback and Frequency Altered Feedback, both potent forms of altered auditory input, are also effective maneuvers and have been incorporated into therapeutic devices.

As opposed to what are increasingly called Developmental Stutterers (DS), there are Acquired Stutterers (AS), individuals heretofore fluent but suffered subsequent brain compromise, producing dysfluent output in the absence of aphasia. AS can have lesions in many different areas within the left or the right hemisphere, the lesions are usually small, stuttering occurs throughout the sentence and not in particular locations, patients are often non-plussed at their abnormal output, they repeat whole words as opposed to DS' part-word repetitions and fluency evoking maneuvers in DS lack efficacy.

DS do not achieve correct acoustic targets during their dysfluent output, whereas the AS do. Thus, the DS may say, "bu-bu-bu-book," achieving the correct target on the final utterance, whereas AS says, "boo-boo-boo-book," achieving the correct target since the beginning of the output. Careful clinical bedside inspection readily differentiates these differences.

Our laboratory has extensively investigated how the brain orchestrates motor control, focusing upon speech as a marker of output, and stutterers as exemplars of disruption in this system. An expanding brain imaging literature documents

stutterers do not lack something in their brain but, rather, have too many functions of language residing in multiple areas within their brain.

There is a strong genetic component to stuttering but data suggest the genetic predisposition may be necessary but not sufficient for the disorder to present clinically. Studies of twins and multiple other investigations highlight this finding. There are qualitative and quantitative differences between the brains of fluent speakers and stutterers. Qualitatively, frontal lobe gyral patterns in Broca's area differ between stutterers and fluent speakers. Quantitative differences reveal Wernicke's area is bilaterally larger but less asymmetric in stutterers than in fluent speakers.

Magnetoencephalography (MEG), an imaging paradigm providing superb temporal resolution with good accuracy for localizing active cortical areas, reveals fluent speakers cerebrally process speech from the left inferior frontal cortex (articulatory programming) to the left lateral central sulcus and dorsal pre-motor cortex (motor preparation); this sequence is reversed in DS. Stutterers display early left motor cortex activation, followed by delayed left inferior frontal activity. DS appear to initiate motor programs prior to preparation of the articulatory code.

Additional MEG data suggest imprecise functional connectivity within the right frontal cortex and incomplete segregation between the adjacent hand and mouth motor representations in DS during speech production. The network including the left inferior frontal cortex and the right motor/premotor cortex, probably relevant in merging linguistic and affective prosody with articulation during fluent speech, may be partly dysfunction in DS.

Theories of stuttering include altered cerebral laterality, disrupted cerebral processing as noted above, and altered auditory feedback. Our research supports the perspective the SMCS consists of two "nested" loops, an inner phonatory loop (Foundas, Heilman, Rothi and others posit this might be a cortico-striatal-thalamo-cortical circuit) producing sound, and an outer linguistic loop (e.g., same authors posit perisylvian speech-language cortex) selecting sounds to be produced. Stuttering occurs when there is disruption of timing between these two "functional loops." We have also developed an animal model of stuttering, using song iterations in Zebra finch songbirds as a model of stuttering.

Conclusion

Speech is a complex motor act. Marcel Proust, the famous French author, bemoaned his asthma, complaining most people took breathing granted and he could not. Stutterers find themselves in a similar array—that which the average person takes for granted (i.e., normal speech) is a constant struggle.

Hopefully, with improved investigational techniques in neuroscience, employing clinical, genetic and brain imaging paradigms and animal models of sound production, we shall better understand the pan-cultural, global disturbance of stuttering that has been with us throughout time.

John Stirling Meyer ~ 1924-2011

Born in London, England, Dr. John Stirling Meyer attended Westminster School on Westminster Abbey. He obtained a scholarship to Kent School, Kent, Connecticut, USA and obtained his BS degree from Trinity College in Hartford, Connecticut. Dr. Meyer received a Master of Sciences in Neurosciences at Montreal Neurological Institute, where he worked with Dr. Wilder Penfield, famed neurosurgeon and epilepsy pioneer. He earned his MD and CM (Mater of Surgery) at McGill University in Montreal, Canada. Dr. Meyer completed training in Internal Medicine at Yale University and later earned Neurology/Psychiatry, Neurophysiology and Neuropathology degrees from Harvard Medical School, where he was a member of the faculty. At Harvard Medical School, he worked with Dr. Denny Brown, Professor and Chair of Neurology and received his Fellowship and Board Certification in Psychiatry, EEG and Neuropsychology.

In 1957, he became the founding professor and chairman of Neurology at Wayne State University School of Medicine and formed a new residency training program there with Victor Rivera, David Barron and Robert Herndon, who were his first trainers and neurological graduates.

Dr. Meyer was the youngest person ever as a chairman and professor of a medical department at the time in the USA. Dr. Meyer was the first to recognize stroke-patients and wrote the earliest textbooks used in medical schools. He was chairman of the Stroke Panel of the President's Commission on Heart Disease, Cancer and Stroke at the White House in Washington, DC. He had many fascinating stories of President Kennedy and President Johnson. He received the attention of Dr. Mike DeBakey and came to Houston as Chairman of Neurology at Baylor College of Medicine. A member of numerous international and national societies, he was the three-time recipient of the Harold G. Wolff Award. Known as the "Father of Neurology in Japan", he also was awarded the Mihara International Award for Stroke Research in Tokyo, Japan.

He was awarded numerous scientific awards and honors. He authored and edited 30 textbooks (three editions of Medical Neurology) and 930 scientific articles on diagnosis and treatment of stroke, Alzheimer's disease, Parkinson's disease, vascular dementia, and hemorrhagic strokes, he worked to the end of his life. As a retired Professor Emeritus of Baylor College of Medicine, Dr. Meyer was in full-time practice at United Neurology at the time of his death.

Welcomes New Members

ACTIVE MEMBERS

Richard S. Ahn, MD, De Soto
 Eleanor E. Avery, MD, San Antonio
 Lyndon F. Barnwell, MD, Lake Jackson
 Adam R. Blanchette, MD, San Antonio
 Bhagyalakshmi G. Boggaram, MD, Dallas
 Rabia Bano Choudry, MD, Dallas
 Michael E. Clevenger, MD, Texarkana
 Shaun Comfort, MD, San Antonio
 Karen L. Fink, MD, PhD, Dallas
 John W. Foster, Jr., MD, Midland
 Jonathan A. Garza, MD, Houston
 Audrey S. Goldings, MD, Dallas
 Alica Maria Goldman, MD, Houston
 J. Clay Goodman, MD, Houston
 Allison Hennigan, MD, Tyler
 Omotola Abiodun Hope, MD, Houston
 Imad Tawfik Jarjour, MD, Houston
 Karthikeyani Kathiresan, MD, Killeen
 Karen C. Keough, MD, Austin
 Yvonne Kew, MD, PhD, Houston
 M. Faisal Khan, MD, Sugar Land
 Blair William Krell, MD, Lake Jackson
 Alexander Landfield, MD, Abilene
 Ernest Alan Little, MD, Waco
 Djamchid Lotfi, MD, Houston

RESIDENT MEMBERS

Alan William Martin, MD, Dallas
 Jeffery C. McGlothlin, MD, Fort Worth
 Miguel Andres Moreno, MD, El Paso
 Grace Mukamana, MD, Laredo
 Elias M. Ntsoane, MD, Port Arthur
 Kalarickal J. Oommen, MD, Lubbock
 John D. Orr, DO, Mansfield
 Elizabeth L. Peckham, DO, Dallas
 Carmen Teresa Ramirez, MD, College Station
 Henry G. Raroque, Jr., MD, Irving
 Nancy A. Robinson, MD, League City
 Paul E. Schulz, MD, Houston
 Stephanie Schwartz, MD, Baytown
 Alpa Shah, MD, Carrollton
 Mike Amirom Singer, MD, PhD, Dallas
 Sivaram Sudhakar, MD, Amarillo
 Wilson C. Sy, MD, McAllen
 Peter A. Tarbox, MD, San Antonio
 Montgomery A. Verona, MD, Austin
 Iris S. Wingrove, MD, Austin

ASSOCIATE MEMBERS

Sasha Alick, MD, Houston
 Gina Kathleen Anderson, DO, MS, Nassau Bay
 Parvin Azizi, MD, Houston
 Dennis Barson, DO, Pflugerville
 Megha Dhamne, MD, Pearland
 Caelan M.J. Ford, MD, Lackland AFB
 Lalitha Naga Priya Guthikonda, MD, Houston
 Justin Jordan, MD, Dallas
 Melissa Kagnoff, MD, Houston
 Pamela Lupo, MD, Houston
 Asif Mahmood, MD, Galveston
 Svjetlana Miocinovic, MD, PhD, Dallas
 Arti Muralidhara, MD, Houston
 Santosh Murthy, MD, Houston
 Mohammadjavad Poostizadeh, MD, Sugar Land
 Jaime Rawson, DO, San Antonio
 Noemi Rincon Flores, MD, Galveston
 Mauricio Ruiz-Cuero, MD, League City
 Peyman Shirani, MD, Houston
 Trevor Squire, DO, Pearland
 Monika Ummat, MD, Houston
 Mian Urfy, MD, Houston

Minutes

TNS Annual Business Meeting Saturday, February 26, 2011 Hyatt Regency Austin Hotel

President Tommy Yee, MD, called the meeting to order at 12:30 pm. He thanked Alan Halliday, MD, for his work as program chair.

Approval of February 2010 Minutes

The minutes from the 2010 annual business meeting were approved as submitted.

Moment of Silence

The attendees observed a moment of silence to remember two deceased members:

- Jorge Weibel, MD, Charter Life Member
- John Stirling Meyer, MD, Life Member

Secretary-Treasurer's Report

The membership approved the ballot as presented.

Advocacy

Dr. Yee updated the membership on legislative battles that lie ahead in the state. He encouraged members to establish relationships with their senators and representatives and to attend a TMA First Tuesday lobbying day.

Lifetime Achievement Award

The Society honored William H. Fleming, III, MD, with the TNS Lifetime Achievement Award for his dedication to neurological care.

Election of New Officers

Dr. Yee presented the 2011-2012 slate of officers, which was approved unanimously. He also thanked outgoing board members Mark Pretorius, MD; J. Douglas Hudson, MD; Alan W. Halliday, MD; and Eddie Patton, Jr., MD for their service on the TNS board of directors.

Change of Officers

Dr. Yee thanked the Society for a successful year, and presented Tommy Yee, MD with a gavel as incoming president. Dr. Bettinger thanked Dr. Yee for his hard work as president, and then gave his acceptance speech.

The meeting was adjourned at 1:45 pm.

Grand Rounds Now Available at TNS Website

We're delighted to announce that grand rounds are now available on the TNS website. Please go to www.texasneurologist.org then education then grand rounds.

Dr. Grotta and the University of Texas Health Science Center have kindly made their weekly grand rounds available with a recorded video link. If you would like a weekly email of the topic and speaker or information on receiving free CME for the UT Houston grand rounds, please contact Yvette Sanders (email: Yvette.Sanders@uth.tmc.edu or tel: 713-500-7047).

Other state neurology programs may also be offering some of their grand rounds in the near future.

Neurologists Needed for Texas Medical Board Expert Physician Panel

The Texas Medical Board is seeking applicants for additional neurology members for the expert physician panel to review standard of care cases. The reimbursement is \$100 per hour.

The TMB seeks physicians who truly represent the best of the medical profession, are licensed to practice medicine in Texas, are board certified, have no history of licensure restriction, no history of peer discipline, an acceptable malpractice complaint history, and are in active practice in the state of Texas as defined by Board Rule sec 163.11. Experience in peer review is preferred.

If you are interested, please contact TMB Medical Director, Linda Gage-White, MD, PhD for an application
(email: linda.gage-white@tmb.state.tx.us).



Texas Neurological Society
401 West 15th Street
Austin, Texas 78701-1680

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Texas Neurological Society's 2011-2012 Officers

(terms end Feb 2012 unless otherwise indicated)

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Jerry J. Bettinger, MD, Tyler
President@texasneurologist.org

President-Elect

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Vice President

G. Mark Schwartz, MD, Waco

Secretary-Treasurer

Kim E. Monday, MD, Pasadena

Immediate Past President

Tommy Yee, MD, McAllen, TX 78503

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Robert F. Leroy, MD, Dallas
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Robert W. Fayle, MD, Livingston

Program Director

Summer Conference 2011

Robert Leroy, MD

Delegate to TMA

William S. Gilmer, MD

Alternate Delegate to TMA

G. Mark Schwartz, MD, Waco

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