

In anticipation of the

Meeting of the Voice Laboratory Representatives

TVF Friday, 29 May 2020

Chair: Sten Ternström

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Time zones:	Local time	Zoom coordinates
California	06:00	
Chicago	08:00	URL: https://kth-se.zoom.us/j/64309893701
Philadelphia (EDT)	09:00	
São Paulo	10:00	Meeting ID: 643 0989 3701
UK, Portugal	14:00	
W. Europe	15:00	Join by SIP: 64309893701@zoom.nordu.net
Finland, Greece	16:00	
Tokyo	23:00	
Sydney	00:00	

Dear all,

in last year's meeting, we continued to discuss how we might go about answering the key question in voice labs: "what should we measure, and why?" The inescapable answer remains that we must have more and better standards. This year I point you to [a 1994 JV paper by Ingo Titze](#) – his G.Paul Moore lecture – on standards in voice measurement. I thought it might be instructive to take stock of what progress we have made since then.

Standard sets for outcomes: there is a slowly growing voice-related ICONs (International Consensus groups) for agreeing on 'standard sets' of outcome measures. On the next page, there is a list of links to a selection studies/actions that we found. We concluded

- (a) that there is a great need for such initiatives in clinical voice care,
- (b) such sets should not try to cover the whole field, but should be specific for each diagnosis.

So I am asking you again whether you know about any more such efforts: completed, ongoing or planned. In the clinic, only validated methods should be deployed. It is really only when we have standardized outcome measures that we can go to the industry and tell them what we want, in terms of software and hardware instrumentation. Of course, we also need to keep researching voice measurements, to see what might be possible.

(continued)

Updates since 2019

From Meike Brockmann-Bauser in Zürich, Switzerland

In 2020 the first full draft regarding an updated voice assessment and treatment guideline initiated by the “German Association for Phoniatics and Pedaudiology” (Deutsche Gesellschaft für Phoniatrie und Pädaudiologie, DGPP) will be revised. In this year it will be reviewed by further relevant German professional associations, including the German association for Logopedics. In September there will be a further meeting to revise the content accordingly. So from now I would expect we have probably 1-3 more years to go.

In the acoustic analysis part, I gave a strong recommendation to apply the summary guidelines after Patel et al. (2018). Recommendations include the speaking and singing voice range profile, with minimum parameters: speaking F0 and F0 SD, speaking voice SPL and voice SPL SD, and maximum SPL during shouting. The min/max and range of F0 and SPL during singing will be “supplementary” for specific diagnostic questions. Furthermore, there is a recommendation for measuring CPPS and HNR in all patients (so far) in repeated vowel phonations (/a/). Also included is a cautious note regarding speaking voice SPL and F0 effects as confounding factors for both parameters, with a recommendation to note voice SPL of the signal segment analysed. There is only a small description of possible combined indices, but no recommendation to use them as an “objective” measure for perceptual dysphonia.

*References*Core outcome sets and/or methodological studies
for voice-related conditions

<http://www.ichom.org/> Hardly anything here yet on voice or speech, but a whole organization dedicated to the methodology.

<http://www.comet-initiative.org/>

<http://www.comet-initiative.org/resources/coreressourcepack>

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- [2] Williamson PR, Altman DG, Blazeby JM, et al. Developing core outcome sets for clinical trials: issues to consider. *Trials.* 2012;13(1):132. doi:10.1186/1745-6215-13-132.
- [3] Carding PN, Wilson JA, MacKenzie K, Deary IJ. Measuring voice outcomes: state of the science review. *J Laryngol Otol.* 2009;123(8):823. doi:10.1017/S0022215109005398. (This paper has many more related references at the end).
- [4] <http://www.ichom.org/medical-conditions/cleft-lip-palate/>
- [5] Schuering JHC, van Hof KS, Heijnen BJ, van Benthem PPG, Sjögren E V., Langeveld APM. Proposal for a Core Outcome Set of Measurement Instruments to Assess Quality of Voice in **Adductor Spasmodic Dysphonia** Based on a Literature Review. *J Voice.* March 2020. <https://doi.org/10.1016/j.jvoice.2020.02.010>
- [6] Wallace SJ, Worrall L, Rose T, et al. A core outcome set for **aphasia treatment research**: The ROMA consensus statement. *Int J Stroke.* 2019;14(2):180-185. <http://journals.sagepub.com/doi/10.1177/1747493018806200>
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*Al.: Shaheen N. Awan, Julie Barkmeier-Kraemer, Mark Courey, Dimitar Deliyski, Tanya Eadie, Diane Paul, Jan G. Švec, and Robert Hillman

Consensus

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TVF 2019**Minutes of the Meeting of Voice Lab Representatives****Saturday, June 2, 2019****Chair: Sten Ternström****Minutes: Martha Howe**

12:25 Called to order

Chair: Introductions. 2 newcomers

Chair:

Standard protocols are needed, so that standard outcomes can be achieved. These are essential for uniform assessment. Voice pathologies are diverse, and once a diagnosis has been made, it would be beneficial to come up with different specific outcome sets and protocols. We should build on consensus. This is a problem. There are very many things to reach consensus on.

ICONS: There are International consensus groups, but few are voice related. There is a great clinical need, and there are standards that exist to create and run an ICON. Unilateral vocal fold paralysis has an ICON.

Do you know of any other ICONS? Please email me with the information, so that we can build more ICONS.

Do you want to contribute to the process of creating voice ICONs?

Just after the meeting last year, an article with recommendations for f_0 , endoscopy, acoustics, and aerodynamics was published, which includes technical specs, analysis methods, and reporting results. But it is a very general paper for measurements on everyone, rather than specific to any particular voice pathology. Rita Patel presented this work in Sweden in the spring of 2019, and the reaction was, "Do we have to measure all of that?" This is a problem. If you want to cover your back, you will lose people along the way.

I received an update from Meike Brockmann-Bausser about a working group in Switzerland that is drafting recommendations. They meet again in September and it will take 2-4 years before this is finished and fully out. She strongly supports the technical guidelines, noting that there needs to be more on voice range, and specific diagnoses need to be addressed.

Claudio Milstein on upper airways: There has been a dramatic shift in SLP patterns in the US with more and more laryngeal focus. Special interest groups are focusing on upper airway disorders which is the new name, because of this change. One group is at the National Jewish Hospital in Colorado, and another at the Cleveland Clinic. In the UK, Julia Selby is at Brompton Hospital, and Anne and Peter are working on this in Australia.

All of these groups are doing interesting things, but there is not a consensus. We want to create an international consortium of people to work on upper airway disorders. We are planning to get the first working group together in 2020 for treatment of upper airway disorders, which used to be paradoxical vocal fold function and inductive laryngeal function.

Discussion

What about Pulmonary ENT SPL?

Does this also include respiratory therapy? No, they are very different.

Many of our patients are teenagers who get in trouble, often through exercise induced pulmonary constrictions or it has been chemically induced, who are misdiagnosed as it is more laryngeal. The late teens and again around 38 year-olds are the two waves of patients. It involves the upper airways, and a hyperactive cough among other symptoms

We need to get the working group to meet somewhere in the world, then we will have more of a plan what we will do. We should have more by next year.

Will you be including pediatric pulmonary people? Yes.

There has been an effort to get into the most recent AMA guidelines on disability determination, but they decided to wait until the next edition. These guidelines are used in the US and around the world as a guide to determine insurance coverage and compensation in occupational health. The next edition may be too soon, but RT Sataloff can forward your thoughts and input to them.

Funding is needed for an infrastructure project. We can do a lot with new technologies but we need standards in place. If a patient is recording at home with a smart phone, we need protocols for that, integrity protection, etc. This is being bootstrapped right now. We need the funding.

It is crucial that it not be an app that you install, but rather a webpage that does the recording. That way, everyone has the same version all the time. This should be technically possible. The apps are a problem with their varying recording qualities. Smart phones record [with two microphones,] one near the mouth, and the second being used for noise cancellation. This [can] create many complications.

There were two posters presented at this Symposium about these problems.

Also one of the Exhibitors here, according to their website, has an app that allows you to record at home. The recording is stored in a cloud, HIPPA compliant, you can send it to as many patients as you want, and you can name it as you wish. It does many of the same algorithms which are similar to PRAAT, so it is familiar.

But we have to ask the patients to do the same tasks and procedures. With protocols in place, each clinic could build its database. Much of it is very good, much else needs to be done. We need standardization at a very early stage.

RTS: Is it open to rapid changes from feedback? Yes.

A small clinic might not have the tools for clipping, etc. I have students working on something that clinics could send recordings to for that information.

If we could preserve integrity, where the clinics keep the information with an access key, that is also a possibility.

There continue to be problems because all the voice metrics change and even with averaging, there are many different values.

You must calibrate first, and you must compare people to themselves, not to the population, because the population is so diverse.

Voice mapping: it is in the speech range that things change the most. If you want to achieve expressiveness in the voice, you will use that area. It is effective from a communication point of view.

RTS: It is even a bigger problem with pathological voices. Any slight change in condition will have a huge change in results.

Suppose we had a pre-intervention reading, and a post-intervention reading. One can compare people to themselves. We should deposit a recording of your normal voice, so there is a baseline.

RTS: Use both acoustic measures and video endoscopy, which other people can access.

Green, no contact, yellow, beginning contact, so there would give a statistically significant change.

Ron Scherer: We need standardization on instruction.

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