



## **Resilient Voices: Voice Techniques for MS Care**

Presented by:  
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Thank you for joining MSAA's live webinar, Resilient Voices: Voice Techniques for MS Care. Living with MS can sometimes affect how your voice sounds or feels. So today with voice expert Dr. Gloriana Cruz Rivera, we'll learn about common voice changes and simple techniques to help make speaking easier and more clear in everyday life. My name is Yahaira and I'm Senior Director of Health Education and Healthcare Relations here at MSAA and I'm honored to be your host.

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Before we begin our program, just a few quick reminders. You are welcome to submit your questions at any time using the Q&A box. Closed captions are available for your convenience. Also, please know that today's webinar is being recorded and will be available on-demand in a few weeks in our video library. And finally, at the end of the program, we kindly ask you to take a brief survey. Your feedback is very important to us. We love reading your suggestions and comments and it helps us improve future programs and

create new content. And this is our disclaimer. Just a friendly reminder that our program is for informational and educational purposes only and does not constitute any formal recommendations. Please speak with your doctor if you have specific questions or concerns.

And now, please join me in welcoming our guest speaker this evening, Dr. Gloriana Cruz Rivera. She's a Clinical Doctor in Sciences specializing in speech language pathology and voice disorders. Dr. Gloriana combines her passion for teaching with both academic and clinical work and currently serves as Speech Language Pathology Program Chair and Assistant Professor at the College of DuPage. She has extensive experience working with professional voice users focusing on vocal rehabilitation and healthy voice use. She's an active member of the American Speech Language Hearing Association and co-author of *Sing and Shout for Health: Scientific Insights and Future Directions for Vocology*. Gloriana, thank you so much for being here with us tonight and for bringing this new topic to our MS community. It's great to have you. Please take it away.

### **Dr. Gloriana Cruz Rivera**

Thank you, Yahaira. Thank you so much for this opportunity that is so special to me. So, I want to know if everyone can hear me well, can see me. I'm going to share my PowerPoint, but I want to advise you on something. We are going to be seeing a PowerPoint, but we are going to be working with those techniques and exercises, and one of my goals here is that you practice wherever you are. Wherever you are, just practice with me because we are going to be showing an exercise, a technique, and then I'm going to be demonstrating that technique so you can have tools, you can have exercises, that you can use even tonight, if you want to do it.

So, I'm going to just share my screen. Let me know if you can see the screen, please. So, I just decided to do the title *Resilient Voices* because at the end of the day, resilient voices is for everyone, right? I'm not going to talk a lot about myself because Yahaira did a very nice and good brief presentation of myself, but I have been working with voice and voice disorders, vocal coaching, and vocal rehab, probably now for more than nine years. So, that's my passion. I am a speech and language pathologist and since nine, ten years ago, I've been specializing specifically in working with voice and vocal health.

So, what I'm going to do, what I'm going to try to do, or to give you, is a practical guide to understanding voice red flags, voice symptoms, dysfunction for individuals with MS. And everything we are going to be discussing, sharing, and exploring here is evidence-based practice exercises, it's EVP techniques and exercises. So, please feel comfortable to use

them because research is saying that, yes, all of these exercises and techniques work for you to help you restore strength, clarity, and confidence in everyday communication.

So, I want to highlight this. There is evidence that about 40, 50 percent of people with MS experience speech or voice problems, issues, at some point. Okay, it could be earlier, it could be in later stages, but they can be there any time. And these changes happen when MS lesions affect the parts of the brain that coordinate the muscles used for speaking. So, as speakers, and all the articulation and speaking process, we need to know that there are a lot of muscles involved in the speaking process. Although this symptom is discussed less often than other MS symptoms, they are also of huge importance, and we need to recognize them, and you need tools to just work with them.

So, let's just see voice symptoms in MS. And I don't know if I can do this. So, Yahaira, you can just let me know. But I want to ask my audience if at this point you experience or observe any voice changes. So, you can put it in the chat and maybe you can help me. Just let me know what's in the chat.

Voice dysfunction. When we work with individuals that may experience hardness and poor control of both volume and pitch. I think that volume and pitch are two parameters that we can observe changes, or any red flags, any symptoms, specifically for volume and pitch-making it very, maybe more challenging, to be heard or to be understood in a conversation.

What we named it is "Scanning Speech." That's the hallmark speech pattern in MS. It could be the famous scanning speech. So, each syllable is produced kind of more slowly, right, in a slower pace, in a slower rate, and hesitantly- with an evident, observable pause after every syllable. And it could be a little disruptive for the natural rhythm and flow.

I'm seeing a couple of things here so, thank you. I want you to be active here with me. I'm seeing "Not a problem with speech." "Slur my words." Yes, that's totally one of the things that you can experience. "Vocal weakness." Yes, totally. Okay. "Especially in the mornings." Sometimes it's even more in the morning and then throughout the day has some positive changes. Sometimes it's the opposite. So, we as clinicians are going to be seeing this case by case. So, each case could look different. "Volume." Yes, that's one of the red flag symptoms.

So, for neurological voice disorders, voice issues and problems in MS are going to happen from abnormal control, coordination, or strength. Those are three main observable characteristics that we can see specifically for voice problems. Why? Because of the box muscle- named my larynx and my vocal mechanisms, and it's named like that in the literature also, the voice box. Due to the underlying neurological complexities, MS joins a

group of conditions including stroke, Parkinsons, myasthenia gravis, ALS, that can cause some neurogenic - what we name in voice science - nodal neurogenic voice disorders.

What are my goals as a clinician? When we think of vocal coaching, vocal guiding, therapy exercises, techniques for individuals with MS, my goals as a clinician are going to be probably more than the ones that you are seeing here. But let's just discuss these today. Strengthening muscles, because as I mentioned before muscles that are around my vocal mechanisms are going to be having trouble moving the way that they are supposed to. So, exercises targeting lips, tongue, and throat muscles. And I have to say that maybe throat muscles we can change to voice box muscles to improve articulation. That's one of the goals. Then this one, the critical queen or kings of the voice production itself are the breathing patterns. It's the breathing support. So, breath management techniques for increasing breath control to maintain volume, to get the volume that we need, and to produce longer phrases or sentences.

Relaxation. We are going to be looking for relaxation techniques. One of the things that I really enjoy and that I've been learning to do through my career, specifically now for voice disorders, is to see the individuals that I work with in a holistic way. So, relaxation. We need techniques. We need exercises to reduce fatigue related to strained voice, and communication strategies, because at the end of the day everything is connected. So, training pacing and over articulation to improve clarity and intelligibility. We are going to be supporting the vocal health, the voice health. Okay? So, for any individual with a weak or fatigued voice, we are going to be working with exercises and techniques. We are going to be guiding our individuals, the individuals that we as clinicians, voice specialists, work with in a training process. So, we train you. The therapy intervention or even vocal coaching focuses on vocal exercises.

Posture. This is very, very important. Posture guides how we do vocal voice projection and also the breathing support, breathing pattern. Remember something, we do not control the breathing pattern. Now, in voice science we prefer to say that we support our breathing system or mechanism with safe voice use techniques. The goal is to reduce strain while increasing volume. So, for individuals, the beautiful individuals with MS, we are going to be working a lot with increasing effort and volume and then we are going to be adding pitch.

So, we can build what we name sustainable- we are going to be looking for sustainable habits. Habits that you can include in your daily routine. Very easy, very simple. Those

habits are going to be protecting the voice over time. We want to preserve your special and beautiful voices. Okay? So, we are going to be looking for sustainable habits.

And now let's just start. Okay? So, if you are here with me, I would love for you to just, yes, we have the PowerPoint, but I'm going to be also showing the exercise or technique. So please, I would love just for you to do it and to let me know in the chat what do you feel? How do you feel? If you observe something different. So, let's just try to connect in a holistic way with our body, mind, and our vocal mechanism.

So, one of the first things that we need to do to support our voices in terms of volume pitch for conversation is going to be the breathing patterns. So, let's just talk a little bit about diaphragmatic breathing. Diaphragmatic breathing is the best way to support our vocal mechanism and our voices. Why is it so important? Because it builds steady breath support for speech. Sustainable habits. Remember that concept. Sustainable habits. So, we are looking to build steady breathing patterns for speech. And maybe you are just thinking "Yeah but I breathe all the time." We are going to be looking for conscious breathing exercises and techniques. So, being present and doing breathing exercises in a more conscious way, if that makes sense.

So how to do it? You can do it as you are- as I am now- like sitting, or you can lay down on the floor, on your bed, on your couch. So, it's going to depend on how you feel and how you can or want to do it. Okay? But you need to be comfortable. We are going to be looking for the best posture that we can. We're supposed to try to be aligned. And what we are going to be doing, we are going to be placing one hand on the chest. Okay? Remember, we are going to be working in a holistic way, and we are going to be connecting mind, body, and voice.

So, place one hand on the chest, and the other one we are going to be looking to put on the belly, okay? So, we can feel how the belly is going to be moving or inflated. It's like more inflated and then it's going to be, again, moving down in the inhalation and exhalation process. So, one hand here, the other one on the belly. We are going to be doing an inhalation, a conscious inflate. We should be feeling that the belly is inflated. The belly rises. The chest is going to stay still. You can close your eyes if you want to. And then we are going to be doing a full exhalation, and we are going to be feeling how our body, chest, belly, is going to stay aligned. How? I'm going to do something. I'm going to stop here and I'm going to do it again. So, one hand here, the other one on the belly. Let's do a conscious and very nice breath in through the nose. I prefer to do it through the nose and then exhale.

Any thoughts, anything that maybe you feel? I'm going to show you something. "Relaxed", Angela. Perfect. That's one of the first things that we need to address to work with our

voices. We need to connect. We need to be relaxed. So, thank you for your feedback. I appreciate your feedback. Let me know if you can see. If you can see me, if you can see the cards. This is a card that is the belly breathing exercise. So, belly breathing exercise. It could be one of the techniques. It's an evidence-based technique or exercise that you can use to support your breathing pattern. So, we should be starting any vocal coaching, any vocal intervention or therapy process, with supporting our breathing mechanism.

Then probably another one that I can show you very, very quickly is this technique. Left nostril breathing. It's a very interesting technique, evidence-based, and it's a very good technique also to support our breathing pattern. Usually, we are going to be doing the breathing techniques and exercises through the nose, instead of doing it through the mouth, and that has a science rationale. So usually, or typically, I'm going to be asking you to do the inhalation through the nose. For this one, you can just stay aligned. You can stay seated if you want to. This one is not as easy to do laying down. And for this one, you are going to be using one of your fingers and you are going to be doing the inhalation process with one - usually it is the left- nostril. Take a deep breath. Sustain the breath. And then you are going to be doing the exhalation with the opposite nostril. Okay? How many times can you repeat these exercises? It's going to be something simple. We just need to do it in sets of two or three. How many breaths? Between five and ten. And you can do two or three sets of those.

So, this is the foundation. Breathing support and breathing patterns are going to be the foundation of all voice exercises. So, if you can master this first, it's going to be ideal. That's what we look to master - exercises and techniques related to better diaphragmatic breathing. So, let's move to the other one.

This is another technique, another exercise. Sustained phonation. Sustained phonation is one of the techniques and exercises that we even do for singers, for performers. Because we are looking to improve strength and stability. Those are the two main goals for sustained phonation - strength and stability. For this one, I'm going to show you different ways that you can just practice sustained phonation.

What we name "Sustained Phonation" is a vocal warm up, an exercise, with phonation instead of what we did for the breathing techniques and exercises- which we usually do first with zero, no phonation. For this one, take a deep breath, a conscious deep breath, and you can do the same. You can just do one hand on the chest and the other one on the belly. Okay? And stay steady. And then you are going to be working or doing phonation. Let's do the "Ah."

Okay. Let's do it with an "E."

Let's do it with "Oh".

So, we are going to be working. It's so simple. Those are simple techniques and exercises and if you can just do it and let me know if you feel anything or any observable signal symptoms, just put it in the chat. So, this is one of the exercises that we work with a lot to keep volume consistent.

Keeping volume consistent without fading or shaking. It's going to be building gradually toward a goal or a target between 10 to 15 seconds. Ideally, as a clinician, we are going to be- or as a vocal coach- we are going to be trying to get the 10 second target. So, you can just use your phone to practice. You can just put on your phone to see if you can sustain the vowel between 10 to 15 seconds. That's the goal. And this exercise directly trains vocal fold endurance. So that's the target, that's the goal.

Okay, I'm seeing a couple of things here. Oh, someone is asking me to repeat. So, do you want me to repeat the technique itself? "Ah, was harder than 'Oh.'" Okay, those are good observations. Totally. And usually there are going to be easier and more challenging vowels. So, you just pick the one that you feel comfortable with, okay? You don't have to do it all the time with the "Ah" or the "E" or the "Oh." So, just select one that is an easy, comfortable, production for you. The one that you feel "That's the one that I want to practice because it's easier, because I feel more comfortable." That's the one that you are going to be using.

Oh my god, I like this chat. It's getting nice here and it's cool. You are very quick. Okay. So, someone asked me to repeat the exercise. Let's just do it again. So, for sustained phonation again, you can just use both hands, one on the chest, one on the belly, just to have like a sensory input, additional sensory input. And you are going to be taking a very good and conscious breath. And I'm going to do it with "E." And you are going to be trying to sustain, to hold, in a steady volume as much as you can. Again, we are looking between 10 to 15 seconds. If you do less, that's okay. But at least try to just practice. Try to do it and you are going to be seeing a difference.

You can do sustained phonation with- you can combine breathing techniques with sustained phonation. Another way that we can just practice sustained phonation- I'm going to stop here very, very quickly- is with this kind of exercise. So, sighing is a very nice and good exercise where we can just improve breathing support while also doing sustained phonation. So, what I want to share with you here is that those are techniques and exercises that you can learn how to combine them and it's going to be even better for you and your voice.

This one for example, this is the sighing. And again, I'm going to guide you. So, for this one, posture again is going to be very important. Try to feel relaxed. Try to just relax the

shoulders, the back is straight. You are going to be again, doing an inhalation slowly but deeply. Okay? When you are ready to do the exhalation, let's do a sound like blowing.

Okay. And you can do it again. "Ooh"

And depending on if you feel fatigued, you can do just one or two sets. But if you feel that works for you, you feel comfortable, and it's something that you can do, you can do three to five sets.

I'm going to show you one more time. "Ooh"

Again, try to sustain the volume and the pitch between 10 to 15 seconds. If you can. If you are able to do less, it's okay. Remember that you are going to be mastering the technique or exercise through practice. So, this is sustained phonation and you can just get the vowel that is a better fit for you.

Let me go to the...yeah. You were helping me there in the chat. Thank you so much, guys. Okay, so exercise three, the name of this one is loud voice drill. Okay, so think loud. So, This is why I see my individuals, the individuals that I work with, in a holistic way. Why? Because we are working mind, body, and voice. So, for loud voice drill, we have to change a little bit of our mindset. Okay? So, think loud. What's the goal here? We are working with increasing vocal intensity, and increasing vocal intensity is going to drive us to do a better sustained volume. So, that's why intensity, it's going to be some pitch intensity, and volume, are going to be very important for individuals living with MS.

So, the basis of this specific technique we name it – and if you go to the literature review, if you go to articles research, it's the LSBT Loud. So, this is a specific approach for voice and voice disorders. So, loud voice drill. You can practice at home, in the car, wherever you are or whatever you feel comfortable with. We are going to be practicing and working with vocal intensity. So, we are going to be thinking loud. What it really means is that I'm going to be communicating, saying sentences and phrases in a louder way.

Louder, but safe. Okay? I have to highlight this because for vocal health, being too loud or yelling could be a... it is, it is not that it could be, it is vocal misuse. That is going to be leading us to vocal abuse and then it's going to be leading us to other trauma. But this technique is loud, but safe. That's why research is so important for us, right? So, say loud "Hey. Hello. I'm here. Good evening. Good morning."

Try to practice, and you can just pick a couple of your favorites of the phrases or sentences that you use on a daily basis. Remember that we need to build habits. Sustainable habits. So, let's just think that you can do a list of those phrases that you just use more in a daily basis. So do a list of between 10, 15, 20 phrases that you use a lot and then you can have

the time to practice those same phrases and some short sentences. You can even do a paragraph if you want to. But practicing saying it loud. Loud, but safe.

And how is it going to be loud and safe? Because you are going to be working first with your breathing techniques, patterns, and exercises. Then, you are going to be doing the sustained phonation warm up. So, you are going to be warming up your body and mechanism before then trying to push the mechanism a little bit. So, just pick some phrases and say it aloud. Okay? So, "Welcome, nice to meet you, hello, goodbye." The mental image. Imagine speaking across a large room to someone that is far away or you can even pick or select a corner of your home, apartment, or any place, and you can practice in that corner since you are going to be having good feedback of your own voice.

That's another tip that we usually do for our population. And the key emphasis is loud and clear. I do not need to do it fast. I do not need to just do a lot of effort because when I know and I have breathing techniques, warm-up exercises such as sustained phonation, I'm going to be preparing my voice, my mechanism, to get there. Our key emphasis for loud voice drill is going to be loud and clear. We are not going to be yelling. We are not going to be shouting or straining. We are doing an effort that is sustainable and safe for our mechanism. And I'm going to stop here to see if I have something here. Okay. Yeah, you are here. Let me move to a different one. Okay. Let me go back.

And let's do the other one. Okay. So, pitch glides. Pitch glides specifically are going to be addressing the pitch. So, if I go back to this one, loud voice drill, the key component of this one is what? It's volume, right? It's just to make it loud. Safer, but loud. And if I move to this one, the pitch glides or sirens, they are going to be for pitch, mainly for pitch.

So, why is this technique good or important? Because they improve the vocal fold flexibility. And we need to remember that our vocal mechanism, the whole vocal mechanism, what we have around our vocal folds and larynx, those are muscles. So, they need to move, but they need to move in a specific rate, in a specific pace. So, they are going to be improving vocal fold flexibility and expanding, giving you even more pitch range. So that's the pitch glides.

How can we do it? I want you to try to practice this. We should be starting low, okay? When we think, let's just think, of a curve or maybe in a wave, right? If we think of the ocean and maybe the ocean will be a good example. We are going to be seeing the waves just coming up and then coming down. So, let's just try to put our mental image like that. Like a wave. Going up and then going down again. So, that's going to be the start. Low, going up, then moving back again to low. So, glide smoothly up to a high pitch and then it's going to go

down to a low pitch. Okay, I'm going to show you. How many times? You can repeat it 5, 10 times. Depends on if you feel fatigued just do how many you can. At least one or two.

So, you can take these exercises and techniques and you can just apply them to what better works for you. So, I'm going to show you very, very quickly here. I'm going to do an "E." I like the "E" vowel for this kind of exercise. So, I'm going to use my arm to just give you the visual prompt or cue. So, I'm going to start low. "E."

That's one. I'm going to take, and remember all of those exercises are going to be taking a conscious and deep breath in the beginning. "Ooh."

I'm going to do it with "Oh" or "Ah." "Ah."

So, that's a way that you can support the glides, the pitch glides. Let me just go back. If any one of you are doing it with me, let me know how it feels. And remember that you are going to be doing the pitch that is comfortable for you to do. Okay? If you can't get to a very, very high pitch because we are not singers, right? It's okay. Just do it at your own rate, own pace, and do it the best that you can. MS, for example, can reduce the fine motor control needed, that we need, that everyone needs, for pitch variation. Pitch glides is a very, very good exercise for you to practice on a daily basis and it's going to help you a lot with those pitch variations.

So, these exercises are gently stretching. I'm going to do something here. You know about these exercise bands. I use those bands in my vocal coaching sessions. So, this kind of exercise is going to be stretching, in a gentle way, your vocal folds. In a gentle and safe way. It's going to be mobilizing the vocal folds. It's going to be restoring the natural expressiveness of speech. So simple, so short and sweet, but it's going to be having a very, very positive impact on, specifically, the pitch. I'm going to do something that can help you to visualize this technique. So, I'm going to just keep here my band and I'm going to do the glides again. I love the "E" vowel.

So that's the "Ooh" vowel. So, I'm going to start low. I'm going to take a deep breath. Conscious. "E."

The last one, for this one. "Ooh." Or you can do it this way also.

So, depending if you want to do it this way, or this way, and I think that this is a nice tool to give you that sensory impact. That "Okay, I can do it. Like, I just maybe can't go so high, but I can do maybe to here." That's it, that's okay, that's fine, okay? Nothing happened. So, you can just take the exercise or technique and make it your own. Let me see the time. I have to just go faster here. I'm a speech path, so I talk a lot.

SOVT is one of my favorite techniques and exercises forever. I had the privilege to work with one of the huge and recognized researchers about SOVT exercises. The goal for SOVT as clinicians is going to be reducing the vocal strain, the strain that sometimes we are going to be feeling, observing, because of those muscles that are not taking action the way that they are supposed to do. And it's going to be improving resonance. I want to highlight that SOVT exercises are magic for our vocal folds.

So, hum or phonate through a straw and now I'm going to show you. Let me just give you this information and I'm going to do it. Through a straw either into the air or into a cup of water, like making or creating bubbles. When you do it with the glass and the water and you are just making bubbles, I like to say that this straw phonation exercise is like giving a hug to your vocal folds. So, the SOVT technique works mainly by balancing the vocal fold pressure and efficiency. This is a great technique. It's a great exercise. It has been EBP for years, more than a decade now, making it one of the gentlest yet most effective voice exercises available. So, this is one of my favorites and straw phonation has a lot of variations also.

But I'm going to show you here very, very quickly how we can do it. So, I do have here three straws. You can see that each one of them is different in size, measure, and also different in terms of how they are. Because this one is metal and those are just plastic ones. And also, they are different in length. So, what I'm looking for here is a straw that is not a thin one, we need a probably more open one, if I can say it that way.

I have a glass of water here. I'm going to show you first how you can do it with water. You can do straw phonation just using the air or you can make resistance with water, making bubbles. Both are amazing but I can say that if you by any chance have a straw and a glass of water, try the two that I'm going to be doing so you can just observe the difference. So, what I'm going to be doing is that I'm going to put my straw inside the glass, the cup, and I'm going to take a good breath, a conscious and deep one. And I'm going to do bubbles.

It's amazing, the sensation, and works perfectly in a gentle way with your vocal mechanism itself. So, you can do it as I did, just taking a deep breath and then in exhalation doing the bubbles. No sound, just blowing. That's one way. The other way is doing the sustained phonation that we did before, but now we are going to be doing it with water resistance.

Again, those exercises can take time to master the technique, but they are not so challenging. They are simple. It's just that maybe the first time that you do it, you are asking yourself, "Am I doing it right or not?" But those are very simple techniques that are going to be doing a huge positive impact for you and your voice. So, what I'm going to do now is that I'm going to do a hum. A hum, or humming, is another magical exercise, beautiful exercise, that is going to be helping us and our voice, that's what we are looking for here. So, for trying

to make the humming, I usually guide people the first time to put two of the fingers here, take a deep breath, and just do a sustain "M" sound.

Why? I usually ask my beautiful people to just do it in the beginning stages with the fingers here so you can feel how the whole- the nose, and then the lips, and the mouth, are just tingling. So, I'm going to transfer my hum to the SOVT straw phonation exercise.

That feels amazing. How many sets? It's like the perfect number, between two or three. How many seconds? 10 to 15 seconds. If you can do even more, 20, 25, that's perfect. How many times a day? At least one time a day. If you do straw phonation at least daily between 10 and 15 seconds in sets of two or three, that will be awesome. Let me go back. And you can also do it with vowels. Let me show you very, very quick. So, let's do the "Ooh."

Okay. And I'm going to do one more because I love this one. So, remember what we practiced before, the glides? We can also do the glides and it's even more gentle with the straw. For the glides through the straw phonation we are not going to be looking for seconds. It's going to be quick and easy. So, that's how having tools is going to be helping you to change it through the different exercises. Let's go back to the PowerPoint because time is calling me.

Overarticulation and pacing. That's another exercise. Those are going to be exercises six and seven. So, overarticulation plus reading aloud. Remember, we are going to be improving clarity and intelligibility. For those, you can use the one that we did before, the loud drill, or you can just use those two instead. So, pick a paragraph. And you should be reading that paragraph slowly, steadily, but clear, and making a little bit of effort with a louder and safer volume. So, you can exaggerate a little bit, the mouth movements. And if the paragraph has the following consonants, "T", "K", "P", you can emphasize those consonants in a more effortless way. Why? I'm going to tell you why.

Sometimes the fatigue or the poor muscle control that individuals living with MS experience, are going to be having an impact on specific sounds. "T" "P" "K." Those are sounds that are voiceless. And that's phonetics and voice acoustics and articulation. So those "T" "P" "K" are voiceless sounds. So, for the one who is listening to you, it's going to be challenging to hear and perceptually understand those specific sounds, if that makes sense.

And then pacing with pauses. So, control. The goal is to control the speech rate and reduce the slurring. And it happens that specifically the rates could be having an impact and those slurring words that some individuals with MS observe and experience, this is a good technique that can help you with that. So maybe pick one phrase. Take a deep breath.

Remember, breath is going to be the king of all of our techniques and exercises. So, pick a phrase like "I am home." If I can suggest something to you, pick phrases and sentences that have a lot of the following sounds. Nasal sounds, because you can sustain them better. "F" sound, could be another one or "H" sounds. So, "home." Maybe, "Me, I am." And you can just sustain, a little bit more, the specific consonant. Do the pauses. Try to just make it clear, but steady, and it's going to be helpful.

Those are perfect and are very good ones. I am running out of time, guys. Okay, but let me just do this one very, very quickly. So, "Ma, Me, Mi" exercises are so good to improve vocal loudness and clarity. An individual with MS needs to address those skills. Strength and articulation, specifically for lips and jaw, support breath control during conversational speech and encourage speaking with intentional effort. Those exercises are excellent for you. So, take a deep breath and you are going to be saying "Ma" another breath "Me" "Mi."

You are working with resonance. You are working with volume, with pitch, with rate, with strength, clarity, and intentional effort. And that's perfect for individuals living with MS. Keep volume steady and speech well-articulated. Okay? And you can combine the different 'M' consonants with different vowels. So, repeat it multiple times with consistent effort. How many times? How many sets? Two or three. Can I do it on a daily basis? Yes, that will be perfect. Can I just change the volume through a different set? Maybe lower, middle, and higher. That will be perfect. Okay, that's a daily routine. That's how it looks. A simple practice plan if you want to include it on a daily basis.

So, diaphragmatic breathing, remember that we are always going to be starting with breathing support. Warm-ups with sustained phonation loud phrases. "Hello, hey, I'm here" with effort, you know, louder but safer, straw phonation, and then you can just finish with reading aloud for functional speech. Okay, if you feel fatigue, low energy days, do as much as you can. So, you don't have to do it all at the same time. So, for sustained phonation, you can change how many sets, how many repetitions. You can stop before any strain or breathing increases. And for straw phonation, just do gentle humming through the straw with water for 30 to 60 seconds, maybe one or two sets. And if you need to stop, just stop immediately if you are experiencing that the effort is increasing. Fatigue and MS. It's going to be having an impact in respiratory coordination, vocal fold timing, and speech motor endurance.

Fatigue days. What to avoid. Pushing for loudness or long phonation, just avoid it. Long reading phrases and faster repetition drills. Avoid that if you feel fatigue that day. What you can do instead, keep the effort, okay? As much as you can. Stop early rather than finish the set. If you just need to finish earlier, just do it. But do something. Do it little by little and prioritize consistency over intensity. That's very important. Consistency. It's going to have a

huge positive impact. So, on fatigue days less is more. This is an overview at a glance of how it looks on a daily basis routine.

When to work with a speech language pathologist, specializing in voice? When voice symptoms are getting worse and have a significant impact in daily communication, you are unsure whether the exercises are being performed correctly or safely, you want to access the structure approaches or program as LSVT loud, or speak out, or swallowing difficulties are getting there. So, a couple of references. Thank you so much. Now I'm going to just pass the microphone to Yahaira.

### **Yahaira Rivera**

Thank you, Gloriana. Thank you so much for all the information and especially for teaching us about the techniques but also modeling. I think that everyone was adding comments in the chat.

First, I want to tell the audience not to worry about remembering the names of the exercises or how to do it because this recording is going to be available on our website very soon and you'll be able to re-watch the video, share with family members, and practice the exercises again. So don't worry about that.

And just a quick question for Dr. Cruz Rivera before we wrap up tonight's webinar. We receive a lot of questions about, for example, singers. People who like to sing or people who are experiencing hoarseness with their voice. Will these techniques apply to everyone regardless of their challenges or voice problems that they're experiencing?

### **Dr. Gloriana Cruz Rivera**

Yes. Yes. Those are techniques and exercises that can be shared with different populations.

### **Yahaira Rivera**

Wonderful. Thank you so much. And I want to read this comment from one of our participants. "Everyone in my family keeps telling me I'm not talking loud enough, and I keep telling them it is because of my MS. I'm glad that I'm not just imagining it." So, thank you Dr. Cruz for validating how some of our participants feel and knowing that this is a real MS symptom that can be affecting communication and daily activities. So, we're glad that we're able to bring this program tonight for our community. Before we go, Dr. Cruz Rivera, maybe one more piece of advice for everyone who was listening tonight?

### **Dr. Gloriana Cruz Rivera**

I think that every voice matters. All of our voices are unique. It's like our fingerprint. And I want you to know that there are professionals, clinicians, that can help you, guide you. We have tools for you. We have resources. You are not alone in this. So, we enjoy so much guiding individuals. Specifically for this audience living with MS, we are here to help, and I think that awareness is so important. So, we are here to help. You have tools, there are resources, there is a lot that we can do for people living with MS.

**Yahaira Rivera**

Thank you so much. Once again, thank you for sharing your practical strategies and expertise in voice techniques with our MS community. We truly appreciate your time and contributions.

And to everyone joining from home, we're glad that you could be here. And as a reminder, tonight's program was recorded and will be available on the MSAA website. So, make sure you sign up for email updates. And once the recording is available, you'll receive that notification in your email.

And please take a moment to complete the brief survey and let us know about your learning experience and your feedback. On behalf of everyone here at MSAA, thank you once again for participating and have a wonderful evening. Bye-bye. Thank you.