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Rethinking the Neuromodulator Paradigm

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[Eliza Cabana](#)



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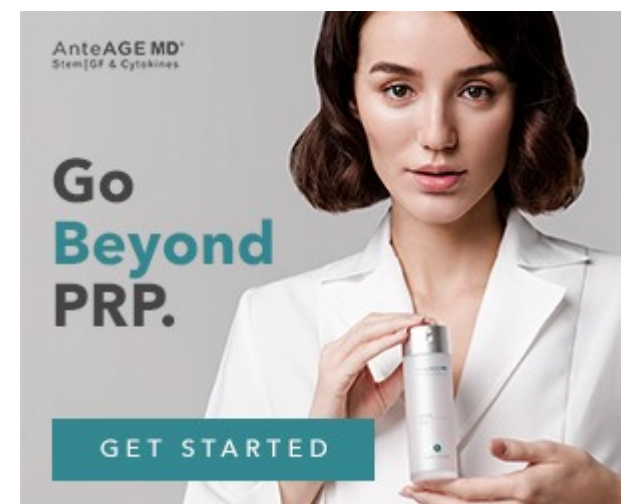
Dr. Jean Carruthers offers insight and guidance for looking beyond the obvious with neurotoxin research, evaluation, and population.

Demand for neurotoxins will continue to drive new products and applications, but, says Jean D.

Carruthers, MD, who spoke at ASDS 2020, it's time to rethink the neuromodulator evaluation paradigm, including how study results are reported, and the changing patient population.

Dr. Carruthers, known for her pioneering role with husband Alastair Carruthers, MD, in the discovery of aesthetic neurotoxin applications, summed up what this means for the next phase for neurotoxins as follows:

- Think: Active AND resting phases of expression when evaluating study results
- Use: Standardized photos, validated assessment scales, patient-reported outcomes
- Consider: The changing patient population



“So we're rethinking neuromodulator results, and also the patient population,” says Dr. Carruthers. “We have to consider not just the active, but also the resting phase of facial expression, and we need to include patient-reported outcomes, standardized photography, and validated assessment scales as we evaluate the results.”

Generations X and Y are different from their Baby Boomer parents, she points out.

“They're data driven. They form the largest portion of the workforce—32%—and they comprise 2.4 billion people worldwide. They have a more accepting attitude to aesthetic treatments than their parents did,” says Dr. Carruthers.

In a review published earlier this year of two phase 3 registration studies, Melanie Palm and colleagues compared data between two age groups: Millennials (15%) vs. those 35+ years of age.¹

“[Millennials] are worried more about their upper face and their lower face,” says Dr. Carruthers. “So this was a treatment of horizontal forehead lines with glabellar treatments in one study and with also the crow's feet lines in the other study.”

They found that Millennials reported greater numerical improvements.

In terms of looking at resting phases of expression, Joel Cohen, MD, and colleagues, including Dr. Carruthers, make “an important

observation" in their as-yet unpublished study of onabotulinumtoxinA.

"...we normally think of the active phase lasting till around 120 days. And about 50% of people still had a one or better than one grade improvement at 150 days in the resting phase," says Dr. Carruthers.

Examining Treatments

"Should we just do neuromodulator, or should we just do filler, or should we do combinations?" poses Dr. Carruthers, citing a study performed by Hugh Cartier and colleagues in which they wanted to evaluate clinical and patient-reported outcomes of monotherapy vs. combined therapies.²

In the study, patients received monotherapy with either botulinum toxin or hyaluronic acid (HA). At six and 12 months, patients received botulinum toxin, HA, and skin boosting HA.

"The success rate judging from the patient-reported outcomes, was much, much better in the combined treatment group, and it got better over time," says Dr. Carruthers. "Repeated combination treatments achieve greater change in global facial aesthetic improvement than monotherapy. Very good advice for our practices."

Now, what about patient-reported outcomes and abobotulinumtoxinA?

"Joel Cohen and his group looked at what happens to patient satisfaction with abobotulinumtoxinA when you change the dilution of the product," says Dr. Carruthers.³ "And what

happened with the Face Q, was that it really didn't matter what the dilution was."

What did matter was getting the dosage right and delivering satisfaction, self-esteem, and confidence.

"Allister always used to say, 'Dilution is for the doctor; dosage is for the patient.' So I think this it shows us that that is absolutely true."

Importantly, she points out, that incobotulinumtoxinA, onabotulinumtoxinA, and abobotulinumtoxinA have similar efficacy for aesthetic applications, as reported by Prager and colleagues,⁴ "...which," says Dr. Carruthers, "is all very good for all of us."

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