Consensus Recommendations on the Use of Botulinum Toxin Type A in Facial Aesthetics: Slide Presentation

Off-Label Statement: It should be noted that the results reported in this slide presentation refer to the Allergan formulation of botulinum toxin type A (Botox®, Botox® Cosmetic, Vistabel®) and cannot be generalized to other formulations or serotypes of botulinum toxin. Botulinum toxin type A is indicated for the temporary improvement in the appearance of moderate to severe glabellar lines associated with corrugator and/or procerus muscle activity in adult patients less than or equal to 65 years of age. All other uses are considered off-label. The full prescribing information should be viewed prior to using any products discussed here.

The contents of this slide presentation are based on a supplement to the Journal, prepared and paid for with an unrestricted grant from Allergan, Inc. This slide presentation does not constitute product or sponsor endorsement by the Journal.
Consensus Recommendations: The Need for Guidelines

- Lack of consistent guidelines for areas other than glabellar lines
  - Inconsistencies in: drug preparation and handling, syringe type, dosing, injection sites, patient selection, and gender differences
- Some room for improvement in patient and physician satisfaction
- Discrepancies in publications regarding techniques and methods
Consensus Conference Format

- **Program**
  - 1–day conference in April 2004
  - Literature review followed by discussion sessions
  - Approximately 30 key opinion leaders in dermatology and plastic surgery

- **Topics**
  - Multiple treatment areas (ie, glabellar lines, horizontal forehead lines, crow’s feet, platysmal bands, bunny lines, perioral area, dimpled chin)
  - Best practices

- **Discussion**
  - Moderated by Jeffrey A. Fisher, MD, Health Learning Systems
  - Polling and consensus using an electronic audience response system
Consensus Recommendations on the Use of Botulinum Toxin Type A in Facial Aesthetics
Consensus Recommendations on the Use of Botulinum Toxin Type A in Facial Aesthetics: Supplement Content

- **General principles**
  - Reconstitution and handling
  - Procedural considerations (syringes, pain management)
  - Dosing and injection-site considerations
  - Aesthetic considerations
  - Patient selection, education, and counseling

- **Dosing, injection techniques, male vs female patients, and special considerations for the following treatment areas**
  - Glabellar complex and vertical frown lines
  - Horizontal forehead lines
  - Crow’s feet
  - Bunny lines
  - Perioral treatment
  - Dimpled chin
  - Platysmal bands
## Consensus Recommendations: General Principles – Reconstitution and Handling

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diluent</strong></td>
<td>■ Preserved 0.9 percent saline (preferred)</td>
</tr>
<tr>
<td></td>
<td>■ Nonpreserved 0.9 percent saline*</td>
</tr>
<tr>
<td><strong>Concentration</strong></td>
<td>■ 4 U/0.1 mL* or any convenient concentration to deliver required units per injection site</td>
</tr>
<tr>
<td><strong>Storage</strong></td>
<td></td>
</tr>
<tr>
<td>Before reconstitution</td>
<td>■ 2°C to 8°C for up to 24 months*</td>
</tr>
<tr>
<td>After reconstitution</td>
<td>■ 4 hours at 2°C to 8°C</td>
</tr>
<tr>
<td></td>
<td>■ Up to 6 weeks at 4°C†</td>
</tr>
<tr>
<td><strong>Handling</strong></td>
<td>■ Special precautions not required</td>
</tr>
</tbody>
</table>


Consensus Recommendations: Syringe and Pain Management

- Plastic, single-use syringes are recommended
  - Insulin syringes may waste less solution
  - 32-gauge needle may reduce pain
- A topical anesthetic, including ice, may be beneficial to some patients
  - To reduce any discomfort associated with botulinum toxin type A injections
## Consensus Recommendations: Variables Influencing Treatment Plan

<table>
<thead>
<tr>
<th>Variable</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aesthetic goals</td>
<td>Development of overall treatment plan</td>
</tr>
<tr>
<td>Region(s) to be injected</td>
<td>Dose, injection sites, retreatment interval</td>
</tr>
<tr>
<td>Gender</td>
<td>Usually higher doses for men; aesthetic goals</td>
</tr>
<tr>
<td>Muscle mass</td>
<td>Higher doses for larger muscles</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>Aesthetic ideals, skin thickness, functional anatomy</td>
</tr>
<tr>
<td>Skin thickness</td>
<td>Higher doses may be needed for thicker skin</td>
</tr>
<tr>
<td>Anatomic variation</td>
<td>Injection sites and dosing</td>
</tr>
<tr>
<td>Animation</td>
<td>Illustrates functional anatomy; injection sites</td>
</tr>
</tbody>
</table>
Consensus Recommendations: Aesthetic Considerations

- Understand the patient’s desires and preferences
- Avoid treating any one area in isolation without regard to its effect on other areas
- Consider gender differences when treating eyebrows or lips
Consensus Recommendations: Patient Selection and Counseling

- Work with the patient to set realistic expectations
- Photograph the patient before and after treatment
- Obtain an accurate medical history
- Advise the patient to avoid medications that inhibit clotting for 10 to 14 days before treatment
- Use loupe magnification when injecting as aid to avoid bleeding and bruising
- Inform patient about potential adverse effects and contraindications
Consensus Recommendations: Posttreatment Instructions

- No need to massage the treatment area
- Contract the treated muscles for 90 minutes to 2 hours
- No need to limit physical activity, or avoid bending, flying, or exposure to heat for 2 hours after treatment
  - These practices may help reduce unwanted diffusion, but no controlled studies have been conducted
## Consensus Recommendations: Treating Glabellar Lines

<table>
<thead>
<tr>
<th>Target Muscles</th>
<th>Usual Number of Injection Points (Range)</th>
<th>Total Starting Dose* (Usual Range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrugator, procerus, depressor supercilii, orbicularis oculi, frontalis</td>
<td>5 to 7; men may require more sites</td>
<td>Women: 20 to 30 U</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Men: 30 to 40 U</td>
</tr>
</tbody>
</table>

*Higher starting doses may be used depending on individual patient variables.*
Consensus Recommendations: Treating Glabellar Lines

Injection sites for the glabellar complex in women (above) and men (below). Please note: avoid injecting too low over the orbit; in general, to be ultimately safe, injecting should be directed “outside” the orbital rim. Courtesy of Steven Fagien, MD.
## Consensus Recommendations: Treating Horizontal Forehead Lines

<table>
<thead>
<tr>
<th>Target Muscles</th>
<th>Usual Number of Injection Points (Range)</th>
<th>Total Starting Dose (Usual Range)</th>
</tr>
</thead>
</table>
| Frontalis, but consider interactions with procerus, corrugators, and orbicularis oculi in overall facial shape | 4 to 8; but more or fewer may be required based on anatomic and aesthetic evaluations | Women: 15 U  
Men: 20 to 30 U  
10 to 20 U |
Consensus Recommendations:
Treating Horizontal Forehead Lines


Photographs of female patient courtesy of Rod Rohrich, MD.
## Consensus Recommendations: Treating Crow’s Feet

<table>
<thead>
<tr>
<th>Target Muscles</th>
<th>Usual Number of Injection Points (per side)</th>
<th>Total Starting Dose* (Usual Range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lateral portions of the lateral orbicularis</td>
<td>2 to 5 (higher in selected cases)</td>
<td>12 to 30 U</td>
</tr>
</tbody>
</table>

*Gender differences in muscle mass are balanced by gender differences in aesthetic goals. Women generally prefer fewer lateral canthal rhytids than men.*
Consensus Recommendations: Treating Crow’s Feet

## Consensus Recommendations: Treating Bunny Lines

<table>
<thead>
<tr>
<th>Target Muscle</th>
<th>Usual Number of Injection Points</th>
<th>Total Starting Dose (Usual Range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nasalis</td>
<td>1 per side</td>
<td>2 to 5 U, divided evenly</td>
</tr>
<tr>
<td>Procerus (for transverse nasal)</td>
<td>1 in midline</td>
<td>1 U, if needed</td>
</tr>
</tbody>
</table>
Consensus Recommendations: Treating Bunny Lines

Courtesy of Steven Fagien, MD
## Consensus Recommendations: Treating the Perioral Area

<table>
<thead>
<tr>
<th>Target Muscle</th>
<th>Usual Number of Injection Points*</th>
<th>Total Starting Dose (Range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orbicularis oris</td>
<td>2 to 6</td>
<td>4 to 10 U, evenly divided among the sites</td>
</tr>
<tr>
<td></td>
<td>To start: 4 sites, 1 site/lip quadrant</td>
<td></td>
</tr>
</tbody>
</table>

*All injections in this area should be symmetrical.*
Consensus Recommendations: Treating the Perioral Area

Injection sites for the perioral area.
<table>
<thead>
<tr>
<th>Target Muscle</th>
<th>Usual Number of Injection Points</th>
<th>Total Starting Dose (Usual Range)</th>
</tr>
</thead>
</table>
| Mentalis      | 1 to 2 (start with 1 midline or 2 symmetrical, lateral injections) | Women: 2 to 6 U  
Men: 2 to 8 U |
Consensus Recommendations: Treating Dimpled Chin

Injection sites and dosage of botulinum toxin type A for dimpled chin.
## Consensus Recommendations: Treating Platysmal Bands

<table>
<thead>
<tr>
<th>Target Muscle</th>
<th>Usual Number of Injection Points</th>
<th>Total Starting Dose* (Usual Range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platysma</td>
<td>Women: 2 to 12/band Men: 3 to 12/band</td>
<td>Women: 10 to 30 U Men: 10 to 40 U</td>
</tr>
</tbody>
</table>

*Some experts use total doses of up to 100 U.*
Consensus Recommendations: Treating Platysmal Bands

Photograph courtesy of Rod Rohrich, MD
Consensus Recommendations on the Use of Botulinum Toxin Type A in Facial Aesthetics

Summary

- Guidelines for using botulinum toxin type A in 7 areas of the upper, mid, and lower face
  - General principles
  - Injection and dosing
- Individualized aesthetic planning is the key to success
- Patient involvement in the treatment plan is critical