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Review Article

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BOTOX STORAGE AND TECHNIQUE

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Storage of BOTOX®

BOTOX® and BOTOX® Cosmetic (botulinum toxin serotype A) purified neurotoxin complex is distributed in vials of 100 U of sterile, vacuum dried crystalline powder without preservative. The 100 U vials of BOTOX® are shipped frozen in insulated, styrofoam containers. When it reaches its destination it can be stored in its dry, powdered form in the refrigerator at a constant temperature of 2–8°C1. Once reconstituted, the solution of BOTOX® can be stored again in the refrigerator at a constant temperature of 2–8°C. DO NOT REFREEZE RECONSTITUTED BOTOX®. Although the package insert for BOTOX® recommends the reconstituted product be used within four hours, studies have shown that after reconstitution, the potency of BOTOX® should remain consistent and unchanged for up to 6 weeks, and can be used without any noticeable change in clinical efficacy.[2,3]

Current popular mode of preparing, handling, and storing BOTOX®

	Popular Methods	Manufacturer Recommendations (4)
STORAGE		
Before reconstitution	≤ 24 months at 2–8°C	≤ 24 months at 2–8°C
After reconstitution	≤ 6 weeks at 2–8°C (3)	4 hours at 2–8°C
PREPARATION		
Diluent	Preserved normal saline (0.9% saline with 0.9% benzyl alcohol) (7) Non-preserved normal saline (0.9% saline). DO NOT RINSE	Preserved normal saline (0.9% saline with 0.9% benzyl alcohol) (7) Non-preserved normal saline (0.9% saline). DO NOT RINSE
Concentration	Concentrations 1–10 ml/100 U vial as needed for appropriate uptake and diffusion (4) 2.5 ml/100 U vial	Concentrations 1–10 ml/100 U vial as needed for appropriate uptake and diffusion (4) 2.5 ml/100 U vial
HANDLING	No special precautions (6)	Do NOT agitate or cause foaming
INJECTION TECHNIQUE	Insulin syringe with 26-30 gauge needle (8)	No recommendations

Injection technique of BOTOX®

BOTOX® Cosmetic should be injected with sterile, plastic, single-use syringes. In order to minimize the pain and bruising of injection, tuberculin syringes with a 30–32-gauge needle are used to administer BOTOX® Cosmetic. For those injectors who want to reconstitute BOTOX® Cosmetic with a minimum amount of diluent (1 ml or less) and be able to control the minutest amount of solution injected, an insulin syringe with an attached 29- or 30-gauge needle can be used. Insulin syringes (0.5 ml or 0.3 ml) have no potential space at the hub where the needle is preattached, thereby minimizing any wastage of solution. In addition, the barrel of the syringe is scored with markings representing 0.01 ml that can be easily seen and which will correspond to 1 U of BOTOX® when a 100 U vial is reconstituted with 1 ml of diluent (8). To further reduce some of the discomfort associated with any type of intramuscular injection, the application of either a topical anesthetic, ice, or both on the skin surface at the injection site can help provide a more comfortable, positive experience for some patients.

Although there are no controlled studies to support certain commonly prescribed postoperative recommendations made to prevent diffusion of the BOTOX® beyond the injection site (distant diffusion), and recommend the following for their patients:

1. DO NOT massage the BOTOX® treated areas for 4–6 hours.
2. DO NOT bend over for prayer (e.g. to tie shoes or pick up something from the floor), gym exercise for a night after a BOTOX® treatment of the face.
3. LIMIT heavy physical activity, and lying down or sleeping for 2–3 hours after a BOTOX® treatmentof the face.
4. DO contract treated muscles for 2–4 hours immediately after a BOTOX® treatment. This promotes the uptake of BOTOX® by the receptor sites at the neuromuscular junctions.

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