

# Point of delivery

Mr Dalvi Humzah and Anna Baker on the 3Dose Syringe botulinum toxin delivery device

**B**otulinum toxin injections are a major injectable procedure in cosmetic medicine, and to date the delivery technique remains unchanged. As the repertoire of use increases and outcomes are critically analyzed it has become apparent that accurate injection placement and dosing is an important aspect of treatment. From the patient's perspective comfort and efficacy of treatment is of paramount importance.

Issues to consider when injecting botulinum toxin are the use of an appropriate syringe and needle system that is easy to use, delivers accurate doses, is comfortable for the patient and reduces toxin wastage. With this in mind VLOW Medical has recently developed and launched a unique and innovative disposable Botulinum Toxin delivery

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device - The 3Dose Syringe. This injection syringe is compatible with all three FDA approved brands available in Europe and the USA. Conventional syringes used in practice can be highly user dependent hence affecting not only the accuracy of the dosing but the comfort and tolerability of injection for the patient. The new syringe design has a no-dead space design and is also packaged with two 33g 13mm low dead space needles ("Mosquito needle") to provide an almost painless injection, whilst potentially conserving up to 0.08mls of product. Existing available syringes may incur a loss of up to 0.85mls of product.

The 3Dose syringe has an ergonomically designed plunger and adjustable clicker system, which allows the practitioner to administer at a dose of 0.025ml, 0.04ml or 0.05ml, dependent upon



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their choice of > toxin and dilution. Each 'click' delivers a consistently precise dose, which allows the practitioner to focus entirely on the accurate placement of the needle and position the delivery accurately without having to monitor the position of the syringe plunger. The syringe also displays the available units remaining at the reconstituted dilution and there is no risk of any leakage or the needle becoming disengaged during the procedure due to a specific designed fit between a secure luer lock and the connector.

Preparing the device for use is relatively straight-forward – the clinician's choice of toxin is reconstituted in line with the aseptic protocol at their practising institution. Once reconstituted the toxin is drawn up into the syringe with the plunger in the free moving position, the desired unit setting is then selected and the 33g low dead space needle provided, may be connected, ready for injection.

In the authors' experience the patients have reported feeling a significant reduction in pain from the needle compared to that previously used (29G and 30G needles). The TSK 33G micro needles are 22% thinner than 30G needles, patients who have received toxin injections at other establishments frequently comment on the 'painless' experience of undergoing treatment using the 33G needle, particularly around the peri ocular and peri-oral region. From the clinician's perspective there is a feeling of security that the treatment is being

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performed meticulously as the device allows for consistent dosing for subsequent treatments and ultimately, reproducible results. Accuracy is key and important in maintaining contemporaneous patient notes and at present Botulinum Toxin injections are thought to be 10-20% inaccurate in dosing. The number of treatment "clicks" remaining allows clinicians to quickly calculate if there is adequate toxin in the syringe to complete the treatment. Dosing volumes can quickly be changed during treatment and the remaining "clicks" for the desired volume is immediately visualized (volumes of 0.025, 0.04 and 0.05mls).

We have recently looked closely at this system and considered it in relation to the currently used techniques. The syringe and two needles are provided in a sterile package – this allows the clinician to have the items ready to use in an aseptic environment as the single package is opened. A separate needle will need to be used to mix and draw up the toxin solution. Once drawn up the 33G low dead space needle is mounted on to the syringe and the treatment can proceed. This has speeded up treatment times as most of the equipment required is readily available and can also be stored for easy reach when required. Although it may appear to be a slightly more expensive (£350) per treatment – the overall time saving, reduced toxin wastage, ease and accuracy of treatment and patient satisfaction far outweigh this cost. Our choice of treatment procedure now incorporates the 3Dose syringe.

Contouring the lower aspect of the face with toxin requires not only an accurate knowledge of the anatomy but also a thorough analysis of the area to precisely place product to the target muscle. The muscles of the lower face hold no forgiveness for errors in placement of toxin and volumes of less than 0.1ml are challenging to accurately administer using the current conventional devices. The 3Dose syringes instill peace of mind through unrivalled accuracy with positive patient feedback to reflect this. Such innovation is a welcome addition to our clinic! **AM**

**3Dose is distributed in the UK by TSK for more information and a free sample visit [www.tsklab.com/3dose](http://www.tsklab.com/3dose)**



Mr Dalvi Humzah was a consultant plastic surgeon in the NHS for 10 years and has maintained a plastic surgery private practice for over 15 years. He has always taken an active interest in teaching and training and has been the STEP® Tutor for the Royal College of Surgeons of England and is an examiner for the Intercollegiate MRCS for the Royal College of Surgeons of Glasgow. He is currently also a Regional Advisor for The Royal College of Physicians and Surgeons of Glasgow and was the co-chairman of the UK Botulinum Toxin Group for Aesthetics (UKBTGA). He is a Key Opinion Leader for the aesthetic sector and actively teaches and lectures nationally and internationally.