Micr**@**nJet[™]

Delivering Precision



MicronJet[™] A Novel Intradermal Solution

Less than 1mm in size, the MicronJet[™] device offers an easy-to-use, consistent, shallow, and efficient ID delivery alternative for virtually painless delivery of drugs and vaccines.



The MicronJet[™] delivery pyramids are based on **MEMS** (Micro Electro Mechanical Systems) technology and are made of pure silicon crystal.

The utilization of MEMS technology with a thick-walled, patent protected, pyramid design has enabled the creation of elaborate miniature devices with unprecedented mechanical stability and structural precision.



3 Simple Application Steps



Hold syringe flanges between thumb and fingers.

The **blue line** must face you at all times.

Syringe flanges are not the orientation guide as they may not always be parallel to the blue line; use the blue line for orientation.



Stretch the skin downwards throughout the entire injection.

Insert the device at a **45° angle**.

Press the device into the skin until a **shallow indentation** is formed.



Inject slowly, expect strong resistance.

A **white weal** (bleb) will form at the injection site.

Upon completion, wait **3 seconds** and remove syringe.

About NanoPass

NanoPass Techlogies is an ISO13485 certified commercial stage pioneer in the development of virtually painless intradermal delivery solutions for vaccines and drugs. Its flagship product, the 0.6mm

MicronJet[™], is the first and only true microneedle device to receive FDA clearance as an intradermal delivery tool for substances approved for delivery into the skin*. Supported by extensive clinical data and regulatory approvals in leading markets, NanoPass is expanding its availability by partnering with pharma companies and distributors aiming to provide better patient care worldwide.

* The MicronJet[™] is intended to be used for injecting fluids into parts of the body below the surface of the skin. The MicronJet[™] is indicated for intradermal injections of any substance or drug approved for delivery by this delivery route.



NanoPass Technologies Ltd. Delivering Precision

www.nanopass.com | info@nanopass.com

3 Golda Meir Street Nes Ziona, Israel, 740364 +972.8.946.2905 8



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Potential Applications

1. Vaccines

Research shows that by harnessing the robust immune system of the skin, intradermal delivery with MicronJet[™] can achieve better immunological results than IM or SQ delivery with lower doses.

Intradermal delivery may be suitable for:

- Vaccines with low immunogenicity
- When increased vaccine capacity is required
- For populations with reduced immune response to vaccines (non-responders)
- For subjects with Needle-phobia

MicronJet™ Benefits for Vaccines	Improved immunogenicity and/ or dose sparing over SQ and IM devices	Improved immunogenicity and/ or potency over other ID devices	Extensive clinical validation
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Improved Immunogenicity and\or Dose Sparing Over SQ and IM

The easy-to-use, 0.6mm MicronJet[™] has demonstrated:

- Improved immunogenicity to full-dose vaccines
- Significant dose sparing (4-40% of the dose) with various vaccines
- Adjuvant sparing in seasonal influenza

Improved Immunogenicity\Potency Over other ID Devices

NanoPass clinical trials have shown superior clinical outcomes over other intradermal devices in tests with different vaccinations:

- Improved immunogenicity over ID delivery using the Mantoux technique attributed to the shallowness and consistency of injection
- Better potency over Intanza[®], delivering the same results with one third of the dose

2. Skin Testing

Tuberculin Skin Test (TST)

The easy-to-use, 0.6mm MicronJet[™] has demonstrated:

- TST is widely used for the diagnosis of latent tuberculous infection
- The Mantoux technique, the most commonly used for TST, is often difficult to perform reliably, affecting testing results and safety
- A study comparing Mantoux technique to MicronJet[™] for TST has shown that:
 - MicronJet[™] was significantly less painful than the regular needle
 - MicronJet[™] yielded significantly larger blebs than did conventional needles (consistent ID delivery)

Allergy Testing

- ID allergy testing is indicated when skin prick test (SPT) is negative and there is a strong clinical history for sensitization
- ID testing is more sensitive, and detects immune responses to allergens with much greater accuracy
- Absolute necessity to do ID testing, when the SPT is negative, for drugs and venoms



MicronJet[™] Main Advantages



Easy to Use

In a survey conducted with over 100 doctors and nurses, 94% found the device easier to use than a regular needle



Virtually Painless

Less painful and intimidating than a regular needle and syringe, with the potential for improved compliance



Shallow

Histological evaluations have confirmed that injected materials are defined well within the dermis with low variability



Consistent

Blebs of >6 mm were observed 99% of the time, evaluated in over 1,000 injections on more than 800 subjects



- Pediatrics applicability, as demonstrated by large Phase III study on 6-week-old infants

- Elderly applicability was demonstrated in several clinical study



Extensive Clinical Validation

As of February 2021, approximately 6,500 subjects were injected with MicronJet[™] in nearly 60 completed and ongoing clinical trials and with over 28,000 injections. The studies, conducted on patients ranging in age from infants to 95 years in North America, Europe, Israel, Hong Kong, South Korea, Bangladesh, Brazil and Japan, represent one of the industry's most comprehensive databases on intradermal delivery.



Commercially Available

The MicronJet[™] is available commercially in numerous territories including the US, EU, Russia, Brazil, China and Korea and is used for drug delivery applications such as BCG vaccination, tuberculin skin test and allergy testing.

