Selecting SCIG Pumps and Needle Sets

By Trudie Mitschang

Whether you are a primary immunodeficiency patient new to subcutaneous immune globulin (SCIG) infusions or have been managing your own treatment for years, the choice of products and supplies is an important aspect of your long-term treatment comfort and success.

Let’s Talk Needles

Any discussion of needles can be somewhat uncomfortable, but here are some basics to keep in mind. The gauge of a needle refers to its thickness or diameter. Ironically, the larger the number, the slimmer the bore of the needle. Numerous SCIG infusion sets are available, with needle sizes ranging from 24 gauge to 29 gauge, and 6-, 8-, 9-, 12-, 14- and 16-mm lengths. Because IG is a very viscous fluid, it is believed that a larger bore may decrease resistance and potentially decrease the infusion time.

Clarity on Catheters

Most needles used for SCIG are metal that are inserted and left in the subcutaneous space during the infusion. Another option is a soft Teflon catheter. The catheter is inserted using a metal needle; however, the metal needle is removed, leaving the soft catheter in place. Although these types of catheters are more commonly used for longer-term continuous infusions, they also can be used for SCIG therapy. When used for SCIG, the needles are available with an inserter, which allows the patient to insert the needle with the push of a button instead of manually. These, however, are available in a single line infusion set (not multifurcated).

Tubing and Pump Talk

Infusion sets come in a variety of options of furcation (number of sites). The type of tubing set selected will depend on the number of sites and the infusion pump that is used. Infusion sets are available with single, bifurcated, trifurcated, quadrifurcated and five- and six-leg branches attached to a single trunk, which is connected to the syringe or other medication container. The infusion set tubing is connected to the syringe at the Luer lock end and is primed prior to insertion of the needle.

Different styles of infusion sets also vary in tubing diameter, which is important to consider when selecting the infusion pump. For instance, a mechanical pump may require larger bore tubing to decrease
resistance of immune globulin, which is a high-viscosity drug, whereas a digital pump can use smaller bore tubing without changing the rate or resistance.

Some infusion pumps use an IV bag or “cassette,” which is filled with the SCIG product and connected to the pump. A number of different infusion pumps have been used for administration of SCIG. Most are syringe pumps that will accept a 50 mL or 60 mL syringe, but there is also a smaller version that accepts a 10 mL or 20 mL syringe. Some can also be programmed for different infusion rates.¹

**Dealing with Discomfort**

Once the needle is placed during an infusion, the process should not be painful. If there is pain during the infusion, one reason may be that the catheter needs to be replaced. If the infusion sites are painful during SCIG, patients may need to check with their nurse or pharmacist regarding how to adjust the needle length or placement.

**When in Doubt, Ask**

While many factors go into choosing needles, ease of use and comfort during infusion are what will determine how successful your treatment will be. Ask your healthcare provider, infusion pharmacist or nurse how to select the right SCIG infusion set for your healthcare needs.

**Reference**

**SCIG Pumps**

**RMS FREEDOM 60, Reusable Pump**

The FREEDOM60 Syringe Infusion System from RMS Medical Products is a completely portable syringe infusion system, without the need for electricity or batteries, that operates at a constant, safe pressure. It is available with RMS’ Precision Flow Rate Tubing (that can also be used with other pumps), which features F-numbers that provide a different level of flow restriction for precise delivery of the medication, an emergency slide clamp on every set, a Leur disc connector to act as a barrier to contamination and an extension set available for longer length. The FREEDOM60 pump can be used for almost any subcutaneous or intravenous administration in a standard 60 mL syringe. (800) 624-9600, rmsmedicalproducts.com

**Crono S-PID 50 Infusion Pump**

The Crono S-PID 50 from IntraPump is the newest high-volume ambulatory infusion pump for controlled subcutaneous administration of prescribed medications. Crono S-PID 50 combines high technology with innovative design. It is small and lightweight, accurate and has the flexibility to change flow rates during an infusion with ease, which makes it ideal for home therapy and provides flexibility for the patient to administer medication any time of day without interruption to daily life or leisure activities. Crono S-PID 50 is used with a dedicated 50 mL syringe. There is also a Crono Super PID pump designed for pediatrics with dedicated 10 mL and 20 mL syringes. (866) 211-7867, intrapump.com

**SCIG Needles**

**Soft-Glide Single- and Multi-Needle Sets**

EMED Technologies offers its Soft-Glide single- and multi-needle Sub Q infusion sets in 24 and 27 gauges and a wide selection of needle lengths, including 4mm, 6mm, 9mm, 12mm, 14mm and 16mm, to accommodate all age groups and skin types. The sets feature soft translucent wings to facilitate placement and patient comfort, and they are available with Safety Wings to encapsulate the needle upon removal. The sets’ coating technology minimizes needle discomfort and anxiety, and its optimized needle contour maximizes flow. (888) 550-6500, www.emedtc.com

**HigH-Flo Needle Sets**

RMS Medical Products’ HigH-Flo Subcutaneous Safety Needle Sets feature a safety closure that covers the needle after use to reduce risk of needle stick injuries, 20-inch tubing for fewer tangles and lower residual volume, a backcut needle tip design for less tearing of the skin, and a flexible “flying-hinge” that bends to fit the body for less irritation and greater site comfort. They come in 24, 26 and 27 gauges in 4mm, 6mm, 9mm, 12mm and 14mm lengths. A Y-Connector is available for combining sets for up to eight sites or to enable infusing with two different needle lengths. (800) 624-9600, www.rmsmedicalproducts.com
Imagine no Tegaderm™

"The Crono pump is easier and more life friendly than most other pumps. Since I am in college it is convenient to be able to put it in my pocket if have to be at class. Also, shorter infusion time and smaller needles."

"Now I only use two sites as opposed to 4 sites and my infusions are down to one hour (they were two hours until recently)."

"I now have hope for a much more active life with my family."

The Infusion Set

The neria™ multi infusion set is designed for the subcutaneous delivery of immune globulin.

The combined benefits of a low profile needle with a pre-attached adhesive make for simple insertion technique and eliminates the need to apply Tegaderm™, providing a high level of user comfort. The small bore double layer tubing helps minimize drug wastage and prevents kinking. The 36inch tubing length means less tubing tangling.

neria™ multi has a standard luer lock connection and can work with any infusion pump using a standard luer lock reservoir.

neria™ multi is available in 27G and 8mm, 10mm and 12mm needle lengths.

The Pump

The Crono pump is the smallest, most accurate pump on the market for the subcutaneous delivery of immune globulin.

The Crono SPID50 and the Crono Super PID pumps work with a proprietary syringe, the design intended to ensure the overall size and weight is small and discreet for the user to wear. “You can put it in the pocket of your blue jeans.”

The Crono pump administers in tiny pulses of medication for better absorption at the site. The pump is flexible, and has the ability to alter the flow rate, during the infusion without stopping or changing any tubing.

Crono syringes have a standard luer lock connection and can fit any subcutaneous infusion that has a standard luer lock.
Clearview-MS Multi-Site Needle Set

The Clearview-MS needle set from Norfolk Medical is a multiple site subcutaneous delivery system used specifically for SCIG infusion. They are available in 2-, 3-, 4- and 5-leg sets that allow for multiple subcutaneous infusion sites. Needles come in 24 gauge and 27 gauge in a variety of lengths, ranging from 4mm, 6mm, 9mm and 12mm.
(847) 674-7075, norfolkmedical.com

Neria Multi Infusion Needle Sets

Intrapump offers a variety of styles of neria and neria multi infusion sets, which are steel needle infusion sets with a variety of furcation options. Also offered are neria soft and neria soft90, both of which are soft cannula infusion sets. All are designed for subcutaneous drug delivery. The sets come in 27 and 29 guages in 6mm, 8mm and 10mm needle lengths, and they come with a pre-attached adhesive and sit flat against the skin, so there is no need for extra Tegaderm when using them.
(866) 211-7867, intrapump.com

All needle sets are not created equal
Say Goodbye to Needle Pain - Ask Your Provider for Soft-Glide® Needle Sets!

EMED  Soft-Glide®  SCig Safety Needle Infusion Sets

Easy to Use
Soft-Glide® needle sets are easy to insert and remove, having soft, flexible wing designs that provide a comfortable grip for reliable insertion and removal.

Comfortable
The Soft-Glide® proprietary and patented needle design and coating reduces penetration force and skin friction, resulting in a virtually painless insertion.

Safe
Proprietary and patented wing design requires only a simple squeeze on the wings after removal to ensure that the needle is enclosed completely and securely.

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