

Guide – Setting up a Subcutaneous Immunoglobulin (SCIg) program in a hospital

Immunoglobulin replacement therapy (IRT) is the standard treatment for most children and adults with primary immune deficiencies and some other medical conditions. The aim is to replace immunoglobulin to maintain normal IgG levels. IRT may be given as intravenous immunoglobulin (IVIg) or subcutaneous immunoglobulin (SCIg) and pharmacokinetics differ according to administration route.

When prescribing SCIg or IVIg, you must ensure that doses are rounded to the full vial size. Immunoglobulin is a plasma derived product and is a limited resource. Prescribing a dose that uses a partial vial results in unnecessary wastage. Vial sizes vary between different products. This must be taken into account before prescribing.

Whilst there are multiple brands that may change over time and rates of administration vary for different products, both IVIg and SCIg:

- Are effective at reducing infections and hospitalisations
- Preserve organ function and reduce long term damage from recurrent infections
- Are associated with significant benefits to patient quality of life
- Improve the lifespan of patients

Issues to consider when setting up a SCIg service

- Australian hospitals are required to be 'SCIg approved' by the National Blood Authority (NBA). For further information go to www.blood.gov.au/lg-governance
- Once a hospital is "SCIg Approved" the site needs to be NBA Bloodstar (Australia) registered. To gain access to SCIg for their patients, all medical officers or nurse practitioners (prescribers) and nurses involved in the management of patients requiring SCIg also need to be registered on NBA Bloodstar. The health site does not need to register the patient. A patient is registered on Bloodstar when the Australian Red Cross Blood Service (ARCBS) approves them for SCIg use. For further information go to www.blood.gov.au/bloodstar
- In New Zealand individual clinicians are required to seek authorisation from New Zealand Blood Service for the administration of immunoglobulin to individual patients. Where treatment is managed under the care of a District Health Board (DHB) approval must also be gained from that DHB's local immunoglobulin authority (e.g. immunoglobulin committee). For further information go to www.nzblood.co.nz/Clinical-information/Transfusion-medicine/Information-for-Health-Professionals/Request-forms
- Does your hospital or region have an immunoglobulin (SCIg/ IVIg) policy or guidelines in place?

What teaching/training resources are available? To review the ASCIA SCIg Position Statement go to www.allergy.org.au/health-professionals/papers/scig

Other ASCIA resources are available at www.allergy.org.au/immunodeficiency

For further information contact info@allergy.org.au

- What SCIg products are available in Australia and New Zealand? For further information go to www.blood.gov.au/SCIg or www.nzblood.co.nz/clinical-information/transfusion-medicine/health-professionals-medicine-datasheets/immunoglobulins/

- What are the pros and cons of SCIg delivery methods? (refer to table 2 in this document)
- SCIg product ordering process for the hospital and collection process for the patient

Issues to consider include:

- Cold chain and transport
- Prescription (if required) and associated dispensing fee to the patient
- Frequency and place of collection
- Special consideration for rural and remote patients

- Long term management of patients on SCIg

Issues to consider include:

- Trouble shooting with SCIg and contact details of dedicated staff readily available to patients when assistance is required or when things do not go to plan (these details should be noted in treatment plan)
- Nursing resources
- Reporting and management of adverse reactions
- Traveling with SCIg
- Patient diaries
- Supply of consumables

Table 1: Comparison of Pros and Cons of IVIg and SCIg therapy

Source: Adapted from APIIEG

	Pros	Cons
IVIg	<ul style="list-style-type: none"> • Less frequent infusion (monthly) • Rapid increase in serum IgG • Does not require patient training 	<ul style="list-style-type: none"> • Usually hospital based • IV access required • Risk of immediate and systemic adverse effects • Adverse effects from high IgG levels in 12-48 hours post infusion • Symptoms related to wear off effects of IgG trough levels
SCIg	<ul style="list-style-type: none"> • Home based therapy • IV access not needed • Few systemic side effects • Can be used for patients with previous systemic reactions to IVIg or IV access difficulties - SCIg therapy may be the preferred treatment in these patients • Faster infusion duration • More consistent IgG levels with no wearing off effects related to IgG trough levels • Improved QOL of patient and family with flexibility, independence and empowerment • Reduced hospital costs • Reduced patient travel time and associated costs and inconveniences (e.g. time off school/ work, parking costs) • Patient can take treatment with them when travelling (e.g. on holiday) 	<ul style="list-style-type: none"> • Frequent administration (1-3 times per week) • Local side effects (swelling, induration, local inflammation, itch), which are usually mild and transient • Some patients may require battery or spring driven pumps, although some patients may use the rapid push method which does not require a pump. • Requires treatment plan compliance

Table 2: Comparison of Pros and Cons of SCIg infusion methods

	Pros	Cons
Manual: Rapid Push	<ul style="list-style-type: none"> • Inexpensive (no pump required) • Self-empowerment • Rapid infusion rate (short duration) • Portable and flexible • Can be used when pump fails 	<ul style="list-style-type: none"> • Requires manual strength and dexterity • Manual operation required for the duration of the infusion • Larger bore/gauge needle required for infusing
Mechanical infusion pumps: Spring loaded (e.g. Springfusor, SCIG 60, Freedom 60)	<ul style="list-style-type: none"> • Relatively inexpensive device • Robust (no electronics) and doesn't require servicing • Doesn't require programming • Lightweight, portable and flexible • Automated 	<ul style="list-style-type: none"> • Relatively expensive consumable costs • Limited control of infusion rate and duration in some devices
Mechanical infusion pumps: Battery powered (e.g. Nikki T 34, T34L)	<ul style="list-style-type: none"> • Relatively inexpensive consumable costs • Automated • Infusion rate and duration can be controlled • Portable and flexible • Usage and compliance can be monitored 	<ul style="list-style-type: none"> • Relatively expensive device cost • Requires service and careful handling • Requires programming and set up • Batteries require recharging or replacing • Repairs may be challenging for rural or remote patients

Table 3: Suppliers of SCIg equipment - pumps and consumables

	Supplier	Website
Niki T34 syringe driver	Caesarea Medical Electronics IDFNZ will fund members in NZ	www.remsystems.com.au/suppliers/caesarea-medical-electronics www.remsystems.co.nz www.idfnz.org.nz
SCIg 60 infusion system	EMED Technologies	www.emedgroup.com.au
Go Medical Springfusor®	LTR Medical	www.ltrmedical.com
Freedom 60 infusion system	Medical Devices	www.medicaldevices.com.au
Freedom Edge infusion system	Medical Devices	www.medicaldevices.com.au
Winged infusion sets (25 or 24 gauge)	Terumo	www.terumomedical.com
Soft-Glide single or double lumen sets (various gauge sizes)	EMED Technologies	www.emedtc.com
Neria® single lumen or multi-lumen sets	Clinect	www.clinect.com.au
HigH Flo single lumen or multi-lumen sets	Medical Devices	www.medicaldevices.com.au
Go Medical FCT (flow control tubing) for Springfusor® (various flow rates)	LTR Medical	www.ltrmedical.com

© **ASCIA 2019**

ASCIA is the peak professional body of clinical immunology/allergy specialists in Australia and New Zealand.

ASCIA resources are based on published literature and expert review, however they are not intended to replace medical advice.

This resource has been developed independently by ASCIA as part of the ASCIA SCIg project. Whilst CSL Behring provided an educational grant to assist this project, the content is not influenced by any commercial organisations.

For more information go to www.allergy.org.au

Content updated December 2019