




Hizentra[®]
Subcutaneous Immunoglobulin (Human), 20%

Overview of
Hizentra[®]
Subcutaneous
Home Infusion

CSL Behring

Topics for Discussion

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Understanding the Challenges with IVIG and SCIG

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IVIG and SCIG Challenges

Intravenous Ig (IVIG) therapy¹

Must be administered with trained healthcare personnel present

Given once every 3–4 weeks

Wide fluctuations in serum IgG levels, with peaks and troughs

Venous access required

Subcutaneous Ig (SCIG) therapy^{1,2}

Self-administration at home (after appropriate training)

Given daily up to every 2 weeks

Keeps serum IgG levels consistent week to week

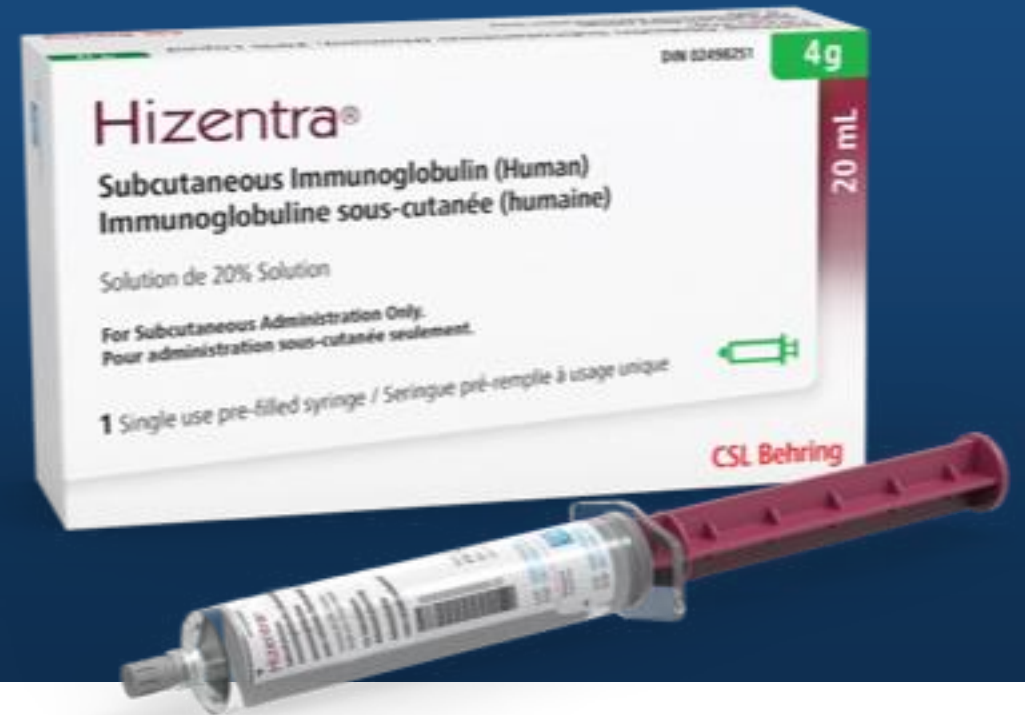
Venous access not required

IgG = immunoglobulin G.

References: **1.** Immune Deficiency Foundation. *IDF Guide for Nurses: Immunoglobulin Therapy for Primary Immunodeficiency Diseases*. Third Edition. 2012. **2.** Hizentra® Product Monograph. CSL Behring Canada Inc. October 28, 2022.

Hizentra[®]
Subcutaneous Immunoglobulin (Human), 20%

About Hizentra[®]



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About Hizentra®

Subcutaneous Immunoglobulin (Human) 20% Solution for Injection (200 mg/mL)

- Hizentra is a highly purified product, called an immunoglobulin, made from human plasma.
- Hizentra contains the antibody immunoglobulin G (IgG), which is found in the blood of healthy individuals to help combat germs, such as bacteria and viruses. Antibodies are major components of immunity, and IgG is the main type of antibody found in blood, allowing it to control infection of body tissues.

What is Hizentra Used For?

- Hizentra is a medicine used to treat patients with primary immunodeficiency (PID) or secondary immunodeficiency (SID) who require immunoglobulin replacement therapy, and patients with chronic inflammatory demyelinating polyneuropathy (CIDP) as maintenance therapy.

Reference: 1. Hizentra® Product Monograph. CSL Behring Canada Inc. October 28, 2022.

Contraindications: When Hizentra® Should Not Be Used

Hizentra should not be used in patients:

- Who have had an anaphylactic or severe systemic reaction to the administration of human normal immunoglobulin or to components of Hizentra.
- With hyperprolinemia type I and II (high levels of proline in the blood) because it contains the stabilizer L-proline.



Reference: 1. Hizentra® Product Monograph. CSL Behring Canada Inc. October 28, 2022.

Dose forms of Hizentra®

- Ready to use
- Stored either in the refrigerator or at room temperature (at +2° to +25 °C)
- Stabilized with proline
- Sugar- and preservative-free



IgG – immunoglobulin G

Reference: 1. Hizentra® Product Monograph. CSL Behring Canada Inc. October 28, 2022.

Pre-filled syringes

Fill size (mL)	IgG protein (g)
5	1
10	2
20	4

Vials

Fill size (mL)	IgG protein (g)
50	10

Hizentra® Dosing

- Over time, the dose may need to be adjusted to achieve the desired clinical response and serum IgG trough level. However, the patient's clinical response should be the primary consideration in dose adjustment.

Dosage for the Treatment Of Primary and Secondary Immune Deficiency

- The recommended weekly dose of Hizentra® is 0.1–0.2 g/kg body weight per week administered subcutaneously. Provided the total weekly dose is maintained, any administration frequency (dosing regimen) from daily up to biweekly can be used and will result in systemic serum IgG exposure that is comparable to the previous IVIG or weekly Hizentra treatment.

Dosage for the Treatment Of Chronic Inflammatory Demyelinating Polyneuropathy

- The recommended subcutaneous dose range is 0.2–0.4 g/kg body weight per week. The initial weekly dose of Hizentra is determined from the patient's previous IVIG dose and treatment interval. Divide the prior IVIG dose in grams by the number of weeks between IVIG treatments. Hizentra therapy should be initiated 1 week after the last IVIG infusion. Provided the total weekly dose is maintained, patients may choose a dosing interval from daily up to biweekly which will result in systemic serum IgG exposure that is comparable to the weekly Hizentra treatment.



Important Safety Information



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Serious Warnings and Precautions

- **Hypotension with anaphylaxis:** Can be induced by human normal immunoglobulin. Immediately discontinue if allergic or anaphylactic type reactions are suspected.
- **Thromboembolic events:** An association exists between immunoglobulin administration and thromboembolic events. Exercise caution when prescribing and administering.

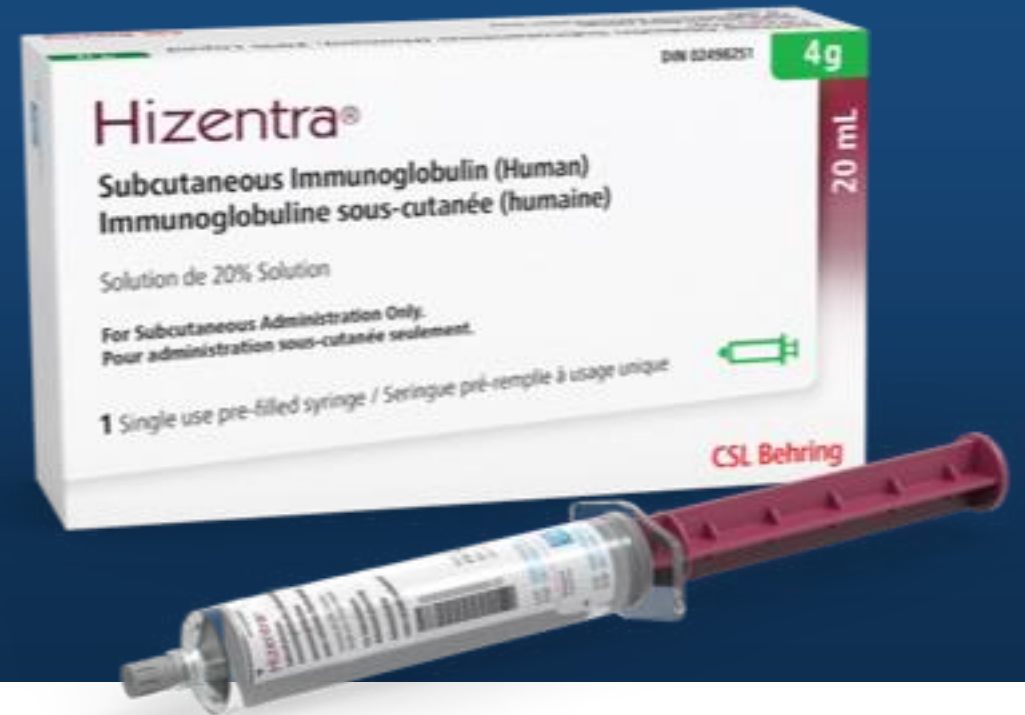
Relevant Warnings and Precautions

- Infectious agents.
- Hemolysis.
- Hypersensitivity and anaphylactic reactions.
- Monitoring and laboratory tests.
- Aseptic meningitis syndrome (AMS).

For more information, please consult the Product Monograph at <https://labeling.cslbehrling.ca/PM/CA/Hizentra/EN/Hizentra-Product-Monograph.pdf> for information about adverse reactions, interactions, dosing, and conditions of clinical use.

Hizentra[®]
Subcutaneous Immunoglobulin (Human), 20%

Step-by-Step Guide to Administering Hizentra[®]



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How To Use Hizentra®

- Before administering Hizentra, the patient should be under the care of an HCP and should have received proper training on preparation and administration.¹
- Hizentra is to be infused subcutaneously (under the skin) only. DO NOT inject Hizentra into a blood vessel (vein or artery).¹
- The patient may have more than one needle inserted subcutaneously into different sites on their body at one time.¹

HCP=healthcare professional.

Reference: 1. Hizentra® Product Monograph. CSL Behring Canada Inc. October 28, 2022.

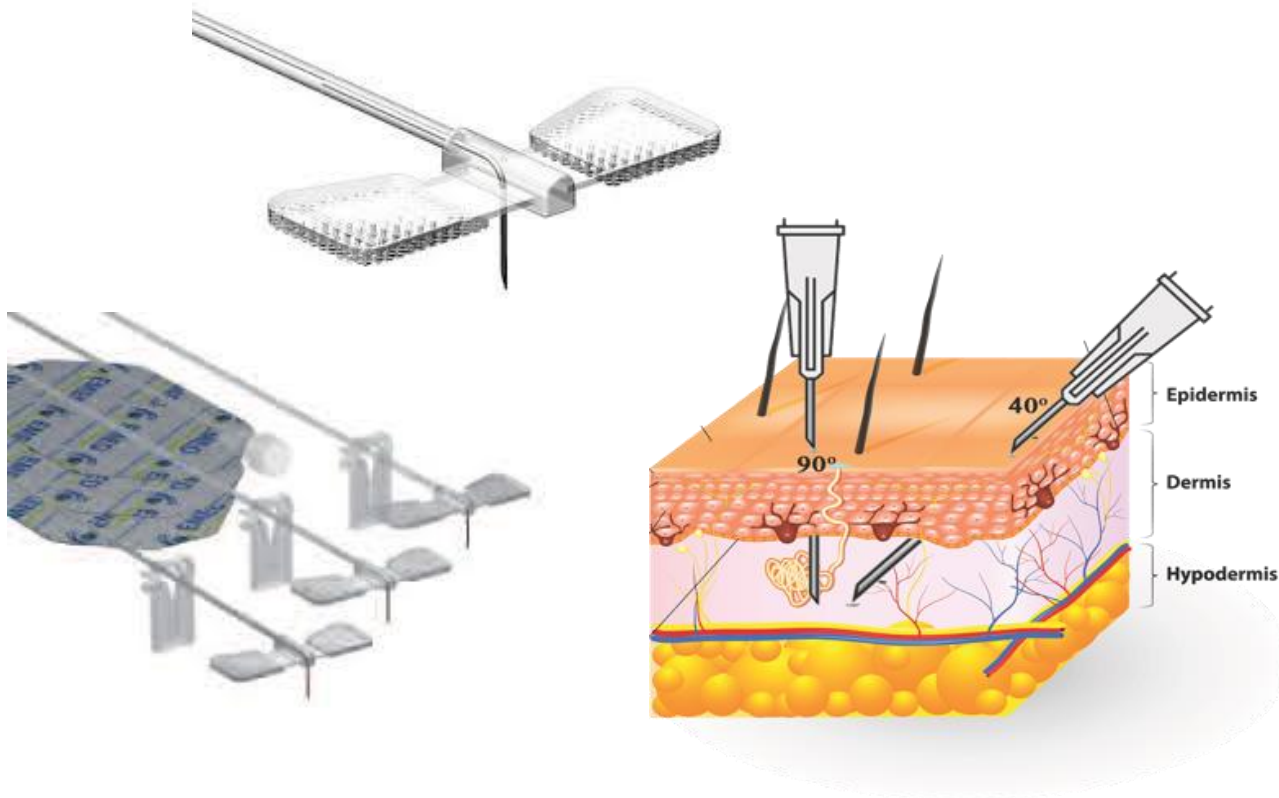
How To Use Hizentra®

Hizentra can be:

- Self-administered: provided the total weekly dose is maintained, patients may choose a dosing interval from daily up to biweekly (every 2 weeks).¹
- Infused in an average time of 1–2 hour(s) per weekly infusion; however, this time may be shorter or longer depending on the dose and frequency the patient is prescribed.¹

Reference: 1. Hizentra® Product Monograph. CSL Behring Canada Inc. October 28, 2022.

How To Administer Hizentra®



Actual needle sizes that can be used for infusing Hizentra¹

Examples:
SCIG Needles



HCP=healthcare professional; SCIG = subcutaneous immunoglobulin.

Reference: 1. BC Provincial Blood Coordinating Office. *Home Infusion of Subcutaneous Immune Globulin: Patient Handbook*. June 8, 2010.

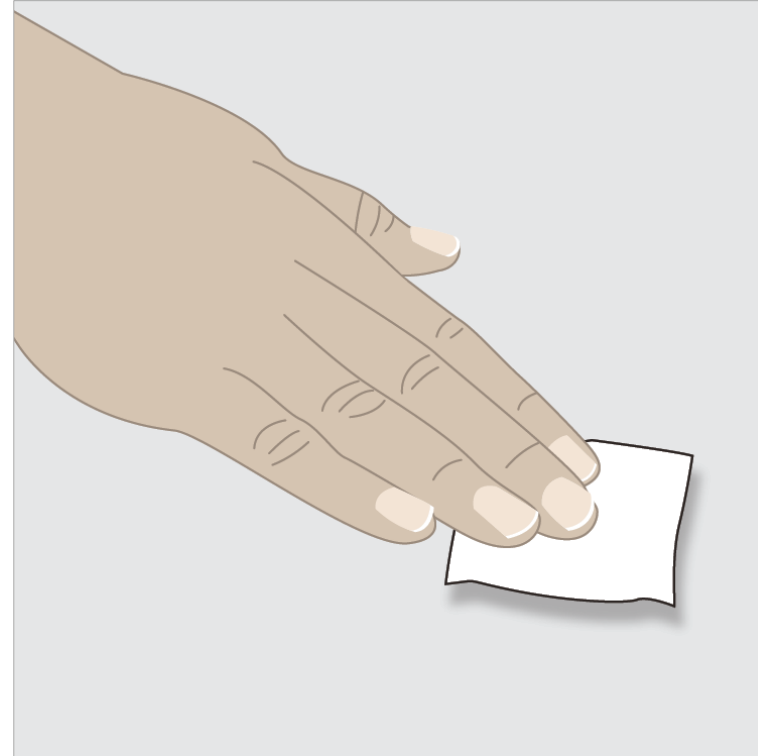
Manual Push and Infusion Pump: Step-by-Step Guide

- Some of the set up techniques are similar, so most of the following slides apply to both manual push and infusion pump use. A few slides, however, show the differences between these two administration techniques which I will highlight in this presentation.

Step 1: Get Ready

1: Clean surface.

Clean a flat surface (or optional Hizentra Infusion Mat) with an antiseptic wipe.



References: **1.** Hizentra® Product Monograph. CSL Behring Canada Inc. October 28, 2022. **2.** BC Provincial Blood Coordinating Office. *Home Infusion of Subcutaneous Immune Globulin: Patient Handbook*. June 8, 2010.

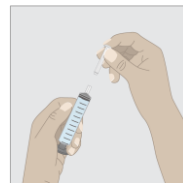
Step 1: Get Ready

2: Gather supplies.

Gather Hizentra® pre-filled syringes or vials (they must be at room temperature) and the following supplies (not provided with Hizentra), as directed by the HCP:¹



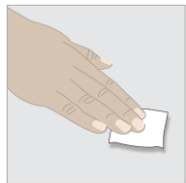
- ✓ Infusion administration set(s) (tubing and needle: butterflies or “multi-needle” sets)



- ✓ Transfer device and/or transfer needle.



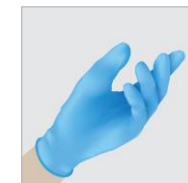
- ✓ Treatment diary or logbook.



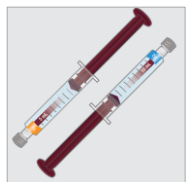
- ✓ Antiseptic wipes and/or alcohol swabs.



- ✓ Gauze and tape, or transparent dressing.



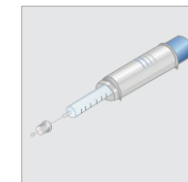
- ✓ Gloves (if recommended by the HCP).



- ✓ Syringe(s).



- ✓ Sharps container.



- ✓ Infusion pump (if used).

HCP=healthcare professional.

Reference: 1. Hizentra® Product Monograph. CSL Behring Canada Inc. October 28, 2022.

Step 1:
Get Ready

3: Wash hands.¹

Wear gloves if the healthcare provider recommends it.²

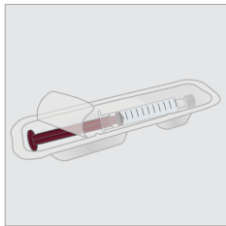


References: **1.** Hizentra® Product Monograph. CSL Behring Canada Inc. October 28, 2022. **2.** World Health Organization. *WHO Guidelines on Hand Hygiene in Health Care: A Summary*. 2009.

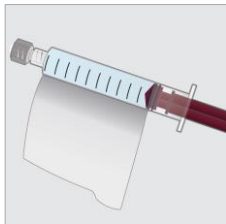
Step 1: Get Ready

4: Check pre-filled syringes or vials.

If you're using pre-filled syringes:



Peel back the transparent covering from the tray. Inspect the protective cap and ensure it is secure.



Peel back the outer layer of the wraparound label, but don't remove it. This will allow for viewing of Hizentra® through the fully transparent inner layer.

If you're using vials:



Inspect the protective cap and ensure it is secure.

Hizentra is a pale yellow to light brown, clear solution. Check for particles or colour changes. **Do not use if:**

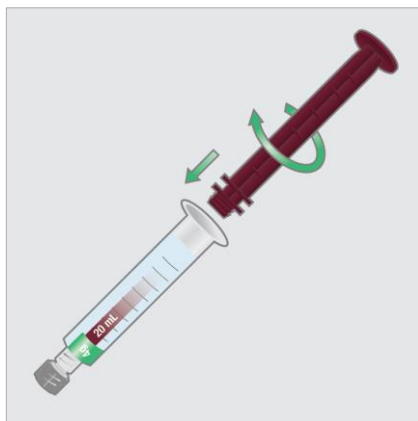
- ✘ Liquid looks cloudy, contains particles or has changed colour.
- ✘ Protective cap is missing or defective.
- ✘ Expiration date has passed.

Step 2: Prepare for Infusion¹

Manual Push:

If you're using pre-filled syringes:

The 5 mL and 10 mL pre-filled syringes are fully assembled for use. For the 20 mL pre-filled syringe, screw the plunger rod onto the pre-filled syringe stopper prior to use.

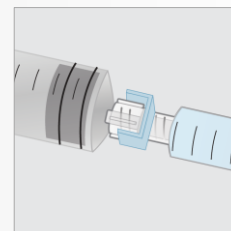
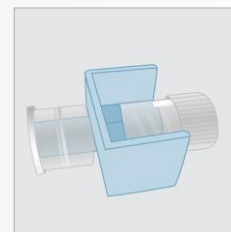


Reference: 1. Hizentra® Product Monograph. CSL Behring Canada Inc. October 28, 2022.

Infusion Pump:

If you're using pre-filled syringes:

If the Hizentra® pre-filled syringe size does not match the infusion pump requirements, transfer the contents of the pre-filled syringe to another syringe specific for this pump as follows:



- Use a syringe-to-syringe transfer device (tip-to-tip connector).
- Remove the protective cap from the pre-filled syringe. Attach the transfer device by twisting it onto the pre-filled syringe. Attach the empty syringe by screwing it onto the other side of the transfer device.
- Push the plunger of the pre-filled syringe to transfer Hizentra from the pre-filled syringe to the empty syringe.
 - If multiple pre-filled syringes are necessary to achieve the prescribed dose, repeat this step using a new pre-filled syringe.
- After the transfer is complete, remove the empty pre-filled syringe and transfer device by unscrewing them from the syringe specific for this pump.

Step 2: Prepare for Infusion¹

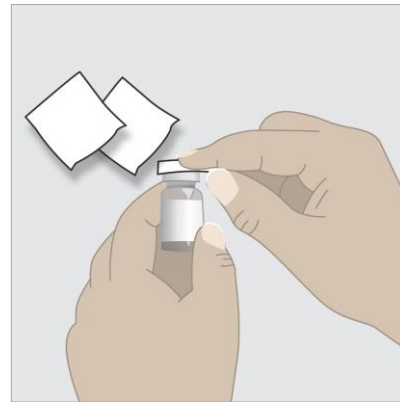
If you're using vials:

1: Take off the protective cap.



2: Clean vial stopper with an antiseptic wipe.

Allow to dry.

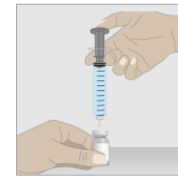


3: Transfer to syringe.

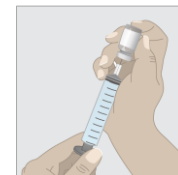
If using a **transfer device**, follow the manufacturer's instructions. If using a **needle and syringe**, follow these steps:



- Attach a sterile transfer needle to a sterile syringe.
- Pull out the plunger of the syringe to fill the syringe with air. Make sure the amount of air is the same as the amount of Hizentra[®] you will transfer from the vial.



- Put the vial on a flat surface. Keeping the vial upright, insert the needle into the centre of the rubber stopper.
- Check that the tip of the needle is not in the liquid. Then, push the plunger of the syringe down. This will inject the air from the syringe into the airspace of the vial.



- Leaving the needle in the stopper, carefully turn the vial upside down.
- Slowly pull back on the plunger of the syringe to fill it with Hizentra.
- Take the filled syringe and needle out of the stopper. Take off the needle and throw it away in the sharps container.

When using multiple vials to achieve the desired dose, repeat this step, then go to **Step 3**.

Reference: 1. Hizentra[®] Product Monograph. CSL Behring Canada Inc. October 28, 2022.

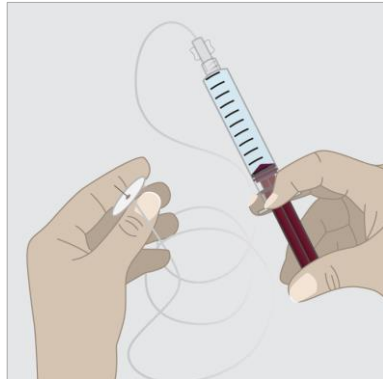
Step 3:

Infuse

(for pre-filled syringes or vials)

Manual Push:

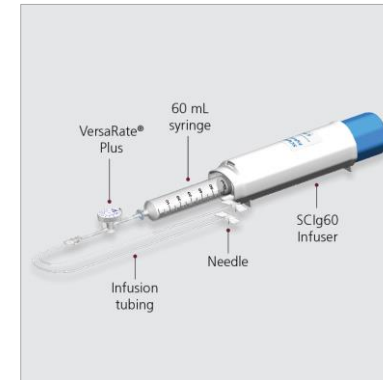
1: Prime Tubing.¹



- Connect the syringe filled with Hizentra[®] to the infusion tubing.
- Gently push on the plunger to fill the tubing with Hizentra.
- Stop priming before the Hizentra fluid reaches the needle.

Infusion Pump:

1: Prepare Pump and Prime Tubing.¹



- Prepare the infusion pump according to the manufacturer's instructions.
- Connect the VersaRate[®] Plus and infusion tubing to the syringe filled with Hizentra (as shown in image).
- Gently push on the plunger to prime (fill) the tubing with Hizentra.
- Stop priming before the Hizentra fluid reaches the needle.
- Insert syringe into pump.

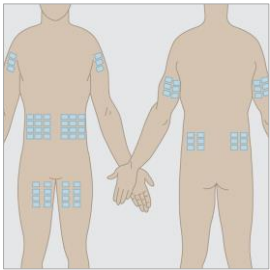
CSL Behring does not endorse specific pumps, devices or needles manufactured by other companies. For questions regarding those items, please directly contact their manufacturers.

References: **1.** Hizentra[®] Product Monograph. CSL Behring Canada Inc. October 28, 2022. **2.** Immune Deficiency Foundation. *IDF Guide for Nurses: Immunoglobulin Therapy for Primary Immunodeficiency Diseases*. Third Edition. 2012. **3.** Shim W-S and Oh U. Histamine-induced itch and its relationship with pain. *Mol Pain* 2008;4:29..

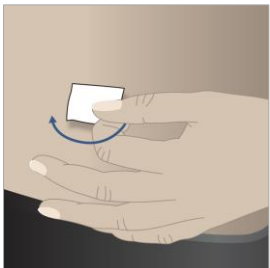
Step 3: Infuse

(for pre-filled syringes or vials)

2: Prepare injection site(s).¹

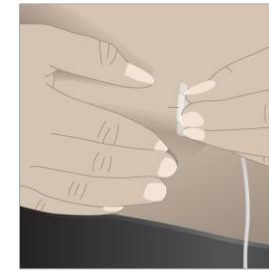


- Select an area on the patient's abdomen, thigh, upper arm or side of upper leg/hip for the infusion. You can use more than one site at the same time.
 - Injection sites should be at least 2 inches (approximately 5 cm) apart.
- Use a different site from the last infusion that is at least 1 inch (approximately 2.5 cm) away.
- Never infuse into areas where the skin is tender, bruised, red or hard. Avoid infusing into scars or stretch marks.

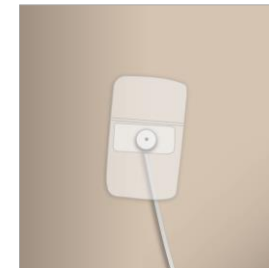


- Clean the skin at each site with an antiseptic wipe and allow to dry.

3: Insert needle(s).¹



- Using two fingers, pinch together the skin around the injection site.
- Insert the needle under the skin.



- Put sterile gauze and tape or a transparent dressing over the injection site to hold the needle in place.

References: **1.** Hizentra® Product Monograph. CSL Behring Canada Inc. October 28, 2022. **2.** BC Provincial Blood Coordinating Office. *Home Infusion of Subcutaneous Immune Globulin: Patient Handbook*. June 8, 2010.

Dosing Guidance

Infusion parameters*	1st infusion	Subsequent infusions
Volume (mL/site)	≤20	≤50
Rate (mL/hr/site)	≤20	≤50

* As tolerated.

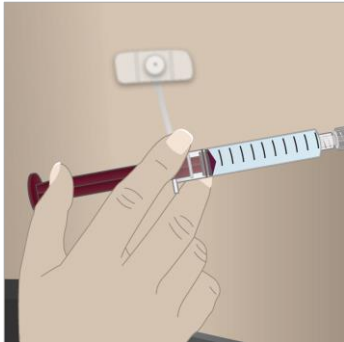
Step 3:

Infuse

(for pre-filled syringes or vials)

Manual Push:¹

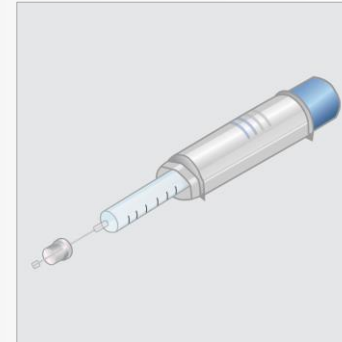
4: Start infusion.



- Hold the syringe and slowly push the plunger to deliver Hizentra[®] at a rate that is comfortable for you. Continue until the prescribed amount of Hizentra has been infused.
- When you have finished, remove the dressing and needle.
- Remove the needle set and cover the injection site with a protective dressing.

Infusion Pump:¹

4: Start infusion.

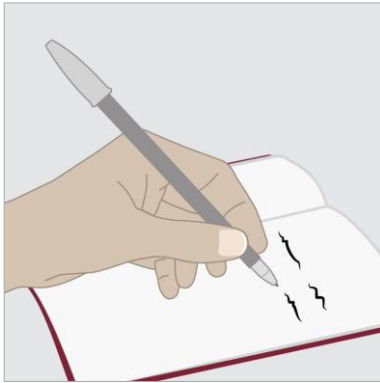


- Follow the manufacturer's instructions to turn on the infusion pump.
- Continue until the prescribed amount of Hizentra has been infused.
- Remove the needle set and cover the injection site with a protective dressing.

Reference: 1. Hizentra[®] Product Monograph. CSL Behring Canada Inc. October 28, 2022.

Step 4: Record and Clean

1: Record treatment.¹



- Peel off the removable part of the Hizentra® vial or pre-filled syringe label.
- Stick it on the patient's logbook with the date and time of the infusion and the exact amount of Hizentra that was infused.

2: Clean up.¹



- Throw away the empty Hizentra vials or pre-filled syringes, along with the used disposable supplies, in the sharps container.
- The sharps container should be disposed of according to local requirements.

Tell the patient to inform you about any problems they have during their infusions.

1. References: Hizentra® Product Monograph. CSL Behring Canada Inc. October 28, 2022. **2.** BC Provincial Blood Coordinating Office. *Home Infusion of Subcutaneous Immune Globulin: Patient Handbook*. June 8, 2010. **3.** Shim W-S and Oh U. Histamine-induced itch and its relationship with pain. *Mol Pain* 2008;4:29.

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Infusion Scheduler and Log Sheets



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My Hizentra® Infusion Schedule Worksheet

Dosing Daily To Biweekly Provides Flexibility

If the total weekly dose is maintained, any administration frequency from every day up to every 2 weeks can be used. Hizentra therapy should be started 1 week after the last intravenous immunoglobulin (IVIG) infusion.

CIDP


Weekly Dose Calculation: 0.2 g/kg*

Infusion Details:

	1 st Infusion	Subsequent Infusions
Volume (mL/site)	≤20	≤50
Rate (mL/hr/site)	≤20	≤50

Example Patient

Karen
47 years old
155 lb (70 kg)



Weekly Dose: 14 g or 70 mL
 Rate of Infusion: 45 mL/hr/site
 Infusion Sites: 2
 Time per Infusion: ~45 minutes

- Busy mother of 3 who needs a dosing schedule that won't get in the way of work and taking care of her kids.
- She has successfully infused Hizentra® at a lower infusion rate without issues, so her physician has decided to increase her infusion rate to 45 mL/hr/site as tolerated.

SU	M	T	W	TH	F	SA
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

● dates of infusion

Case study is hypothetical. Photo does not depict actual patient.
 * The recommended subcutaneous dose range is 0.2–0.4 g/kg (1 mL to 2 mL/kg) body weight per week.



My Hizentra® Infusion Schedule Worksheet

Name: Mrs. Jane Smith

Date of Birth: May 31, 1963

Treating Physician: Dr. John Greg

	SUN	MON	TUE	WED	THU	FRI	SAT	WEEKLY TOTAL
<u>1st</u> week infusion plan (g or mL/infusion)		80 mL				70 mL		150 mL
Infusion rate (mL/hour/site)		20				25		
Number of SC sites used		4				4		
<u>2nd</u> week infusion plan (g or mL/infusion)		80 mL				70 mL		150 mL
Infusion rate (mL/hour/site)		25				30		
Number of SC sites used		3				2		
<u>3rd</u> week infusion plan (g or mL/infusion)		100 mL				50 mL		150 mL
Infusion rate (mL/hour/site)		30				40		
Number of SC sites used		2				1		
<u>4th</u> week infusion plan (g or mL/infusion)		150 mL						
Infusion rate (mL/hour/site)		40						
Number of SC sites used		3						
<u>5th</u> week infusion plan (g or mL/infusion)		150 mL						150 mL
Infusion rate (mL/hour/site)		50						
Number of SC sites used		3						
<u>6th</u> week infusion plan (g or mL/infusion)		150 mL						150 mL
Infusion rate (mL/hour/site)		50						
Number of SC sites used		3						

SC=subcutaneous; g=grams; mL=millilitres.



My Hizentra® Therapy Log Sheet

Name: Mrs. Jane Smith

Date of Birth: May 31, 1963

Treating Physician: Dr. John Greg

Blood Bank/Pharmacy Name: My Hospital

Blood Bank/Pharmacy Phone: 416-123-4567

Infusion date (yyyy/mm/dd)	Duration of infusion (h=hours, m=minutes)	Site(s) used (see legend)	Volume/ site (mL)	Total volume infused (mL)	Lot number(s) infused	List any side effects*	List any medication(s) taken during infusion
2020-05-14	50 m	R/U/A	20 mL	40 mL	4358100016	None	None

SITE LEGEND

- R Right
- L Left
- U Upper
- Lo Lower
- A Abdomen
- H Hips
- Leg Leg/thigh

Hizentra® Waste Report

Record any wasted (broken, contaminated) or expired vials/pre-filled syringes in the table below. Follow your healthcare professional or blood bank/pharmacy instructions on product wastage. If the vial/pre-filled syringe has a manufacturer's defect (broken seal, particles or cloudy solution), record below and return to blood bank.

Date (yyyy/mm/dd)	Lot number	# of vials/ pre-filled syringes	Reason for waste
2015-11-15	4358100016	1	Broken vial, dropped on the floor.

* To report adverse events, please refer to the instructions on Reporting Suspected Side Effects included in the Consumer Information Leaflet provided with your Hizentra® vial and/or pre-filled syringe.



Supportive Tools

Hizentra®

Subcutaneous Immunoglobulin (Human), 20%

Hizentra®
Subcutaneous Immunoglobulin (Human), 20%

How to Self-Administer Hizentra®

For pre-filled syringe, manual push

Immune Globulin Subcutaneous (Human), 20% Liquid
Hizentra®
Single-use pre-filled syringe for subcutaneous administration only
is only

Biologics for Life **CSL Behring**

Hizentra®
Subcutaneous Immunoglobulin (Human), 20%

Hizentra® and You

Information for people living with CIDP

Learn about CIDP, Hizentra and the CSL Behring PLUS+™ Patient Support Program

Hizentra is a subcutaneous immunoglobulin that can be self-administered to help protect the nerves from being attacked.

CIDP = chronic inflammatory demyelinating polyneuropathy

Biologics for Life **CSL Behring**

Hizentra®
Subcutaneous Immunoglobulin (Human), 20%

Manual Push Quick-View Infusion Mat

Watch a how-to video at hizentra.ca, or refer to your Hizentra® Patient Resource binder for full administration instructions.

STEP 1	STEP 2	STEP 3	STEP 4
<h3>Get Ready</h3> <ol style="list-style-type: none"> Clean surface. Gather supplies. Wash hands. Check pre-filled syringes or vials. <ul style="list-style-type: none"> If using pre-filled syringes: Feel back the transparent covering from the top. Inspect the protective cap. Feel back the outer layer of the label, but don't remove it. <p>OR</p> <ol style="list-style-type: none"> If using vials: Inspect the protective cap. <p>Do not use if:</p> <ul style="list-style-type: none"> Liquid looks cloudy, contains particles or has changed colour. Protective cap is missing or defective. Expiration date has passed. 	<h3>Prepare for Infusion</h3> <h4>Pre-filled syringes</h4> <p>If you are using the 5 mL or 10 mL pre-filled syringe, go to STEP 3. If you are using the 20 mL pre-filled syringe, screw the plunger rod onto the syringe stopper. Then, go to STEP 3.</p> <h4>Vials</h4> <ol style="list-style-type: none"> Take off the protective cap. Clean vial stopper with an antiseptic wipe. Transfer to syringe. <ul style="list-style-type: none"> If using a transfer device, follow the manufacturer's instructions. Then, go to STEP 3. <p>When using multiple vials to achieve the desired dose, repeat this step, then go to STEP 3.</p>	<h3>Infuse</h3> <ol style="list-style-type: none"> Prime tubing. Prepare injection site(s). Insert needle(s). Start infusion. 	<h3>Record & Clean</h3> <ol style="list-style-type: none"> Record treatment. Clean up. <p>Tell your healthcare provider about any problems you have during your infusions. Always follow the advice of your healthcare team.</p>

Once you have received training from your healthcare provider to self-administer Hizentra®, use this mat to help prepare for your infusion.

For more information, please consult the Consumer Information contained in your Hizentra® box or talk to your healthcare provider.

Biologics for Life **CSL Behring**

Hizentra®
Subcutaneous Immunoglobulin (Human), 20%

Manual Push & Infusion Pump

My Hizentra® Patient Resource Binder

Information about Hizentra® Log Sheets Step-by-Step Guide

Quick View Infusion Mat Pre-Filled Syringe

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Hizentra®
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My Hizentra® Patient Resource Binder

Information about Hizentra® Log Sheets Step-by-Step Guide

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SHARE

Starting Hizentra® Administration with Resources and Education

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Questions

Resources available on:

For Healthcare Professionals: CSL Behring HCP Hub (hcp.cslbehring.ca)

For Patients: CSL Behring Patient Hub (patients.cslbehring.ca)