

Varicella Zoster Immune Globulin (VZIG)

Implementation Date: August 1, 2020

Rationale for Update:

- Recommendation for post HSCT updated and clarified.

Please consult the Product Monograph ¹ for further information about the vaccine.	
	VariZIG®
Manufacturer	Emergent BioSolutions Inc.
Off-license use	None
Supplied by	Accessed by Alberta Health Services (AHS) from Canadian Blood Services The hospital blood bank should be contacted by the attending physician or the Medical Officer of Health when VariZIG® is required. The hospital blood bank will contact Canadian Blood Services to arrange for the release and delivery of VariZIG®.
Indications for use of varicella zoster immune globulin	<p>Post-exposure:</p> <ul style="list-style-type: none"> • The decision to administer VariZIG® should be based on the susceptibility to varicella, significant exposure, increased risk of severe varicella and contraindication for post-exposure varicella vaccine.^{2,3} • Consultation with an infectious diseases/infection control specialist is advised when VariZIG® is being considered.³ • VariZIG® is of maximal benefit if administered within 96 hours of the most recent significant exposure to varicella disease. • If more than 96 hours but less than 10 days have elapsed since the last exposure, VariZIG® may be used for the purpose of modifying the disease.^{2,3} <p>VariZIG® should be considered for:</p> <ul style="list-style-type: none"> • Susceptible pregnant women.^{2,3} • Newborn infants whose mothers develop chickenpox during the five days before to 48 hours after delivery.^{2,3} • Susceptible immune compromised individuals with congenital or acquired immunodeficiency due to disease or treatment, including <ul style="list-style-type: none"> ➢ Individuals receiving high-dose systemic corticosteroid therapy for 2 weeks or longer (prednisone equivalent of 2 mg/kg or more per day OR 20 mg or more per day if weight is greater than 10 kg).^{2,3} ➢ Susceptible HIV-infected individuals who are severely immune suppressed (CD4 cell count less than < 200 x 10⁶/L or CD4 percentage less than 15%).³

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	<ul style="list-style-type: none"> ➤ Hematopoietic stem cell transplant (HSCT) recipients should be considered susceptible prior to immunization and not on antiviral medication.³ Those who have received 2 doses of appropriately spaced varicella vaccine generally would not be considered susceptible.^{2,4} <p>Note: Individuals receiving replacement infusions of intravenous immune globulin IVIg (400 mg/kg or more) are considered protected and do not require VariZIG® if the last dose of IVIG was received within three weeks before varicella exposure.³</p> <ul style="list-style-type: none"> • For management of significant varicella exposure in a neonatal or pediatric intensive care, consultation with the infectious disease/infection control specialist regarding the potential use of VariZIG® is advised.^{2,3} Hospitalized preterm infants exposed during the first few weeks of life may be candidates for VariZIG® as listed below: <ul style="list-style-type: none"> ➤ If less than 28 weeks gestation or birth weight 1,000g or less, regardless of maternal immunity.^{3,5} ➤ If 28 weeks or more gestation and mother lacks evidence of immunity* against varicella.⁵ <p><i>*Evidence of immunity:</i></p> <ul style="list-style-type: none"> ▪ Documentation of two valid doses of varicella-containing vaccine,⁶ or ▪ Laboratory evidence of immunity,⁶ or ▪ Laboratory confirmation of varicella disease.⁶ <p>For further disease information, contact assessment and reporting requirements refer to: <i>Public Health Notifiable Disease Management Guidelines – Varicella (Chickenpox).</i>⁷</p>
Dose	<ul style="list-style-type: none"> • 125 IU/10 kg body weight to maximum of 625 IU^{1,3} • Minimum dose 125 IU^{1,3}
Route	Intramuscular injection (IM) ^{1,3}
Schedule	<ul style="list-style-type: none"> ❖ One dose given within 96 hours after exposure. Additional doses of VariZIG® may be required if subsequent exposures occur more than three weeks after first dose.³ <p>Notes:</p> <ul style="list-style-type: none"> • Immunization with live virus vaccines (MMR and varicella) should be deferred for at least five months after administration of VariZIG®.^{3,5} • When it is necessary to administer VariZIG® within 14 days after receiving MMR, MMRV or varicella vaccine, the vaccine should be repeated five months after the VariZIG® administration.³
Contraindications	<ul style="list-style-type: none"> • History of anaphylactic reactions to immune globulins¹ • Known hypersensitivity to any component of VariZIG®¹ • Known immunity to varicella zoster virus.¹ • Individuals with IgA deficiencies have the potential to develop anti-IgA antibodies and have an anaphylactic reaction.¹
Precautions	<ul style="list-style-type: none"> • Measures to prevent transmission of viral diseases from VariZIG® include screening plasma donors for prior exposure to certain viruses, testing for the presence of certain current virus infections and using manufacturing techniques to inactivate and/or remove certain viruses. Despite these measures, such products could still potentially transmit disease.¹
Possible reactions	See Product Monograph

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Pregnancy	Should be administered to susceptible pregnant woman who have been exposed to chickenpox. ³
Lactation	Should be administered to breastfeeding women if indicated. ³ It is not known if VariZIG™ is excreted in breast milk. ¹

References

- ¹ Emergent Bio Solutions Inc. (2017, December 19). VariZIG® Varicella Zoster Immune Globulin (Human). *Product Monograph*.
- ² National Advisory Committee on Immunization. (2016 July). Updated recommendations for the use of varicella zoster immune globulin (Varig) for the prevention of varicella in at-risk patients: <https://www.canada.ca/en/public-health/services/publications/healthy-living/updated-recommendations-use-varicella-zoster-immune-globulin-varig-prevention-varicella-risk-patients.html>.
- ³ National Advisory Committee on Immunization. (2018). *Canadian Immunization Guide* (Evergreen ed.). Ottawa, ON: Public Health Agency of Canada. www.canada.ca/en/public-health/services/canadian-immunization-guide.html
- ⁴ Expert opinion of Alberta HSCT physicians. (October 2019).
- ⁵ American Academy of Pediatrics. (2018) *Red book: Report of the Committee on Infectious Diseases* (31st ed.). Elk Grove Village, IL: Author.
- ⁶ National Advisory Committee on Immunization . (2015 Update). Varicella Proof of Immunity. An Advisory Committee Statement (ACS). <http://www.healthycanadians.gc.ca/publications/healthy-living-vie-saine/varicella-proof-immunity-2015-varicelle-preuve-immunite/alt/varicella-proof-immunity-2015-varicelle-preuve-immunite-eng.pdf>
- ⁷ Alberta Health. *Public Health Notifiable Disease Management Guidelines – Varicella (Chickenpox)* www.health.alberta.ca/professionals/notifiable-diseases-guide.html