

## Transfusionists Talk – Transfusion Made Bloody Easy

### INTRAVENOUS IMMUNE GLOBULIN (IVIG): TRANSFUSIONISTS QUESTIONS ANSWERED ...

Sept. 18, 2024

#### Pre/Post Transfusion Knowledge Questions and the Answers with Rationale

##### 1. In Ontario (adult, neonatal, pediatric patients), IVIG is indicated when:

- a) The patient's drug benefits plan covers IVIG costs.
- b) The patient must be immune globulin G (IgG) deficient, serum IgG is less than 6 g/L.
- c) The patient's diagnosis is listed in the Ontario Immune Globulin (IG) Utilization Management Guidelines or the IVIG order is approved by the Medical Director of the Transfusion Medicine Laboratory (TML).
- d) The patient's ABO/Rh(D) blood group is group O, Rh positive.

Answer: c).

Rationale:

c)

For IVIG stewardship, to ensure appropriate utilization of IVIG, the Ontario Ministry of Health endorses an evidence-based framework incorporating specific prerequisites and an authorization process. IVIG treatment is not without risks/side effects; as well IVIG supply is limited, and it is a costly resource.

In Ontario IVIG indications are documented within the [Ontario IG Utilization Management Guidelines](#) (version 4, 2018), encompassing Hematology, Neurology, Dermatology, Rheumatology, Infectious Diseases, Immunology, and Solid Organ Transplant specialties. Transfusion Medicine Laboratory (TML) Medical Directors adhere to this guideline and may also approve or decline additional IVIG treatment requests (indications/clinical diagnoses) based evidence of benefit and discussion with the prescriber.

The Ontario guidelines are currently being reviewed and updated. An additional resource is the Prairie Collaborative guidelines (2022), [Criteria for the Clinical Use of Immune Globulin](#).

a) and d)

IVIG indication and treatment is not associated with patient drug benefit coverage (it is a blood product, provided at no direct patient cost by Canadian Blood Services) or with patient ABO/Rh(D) blood group.

b)

For primary and secondary immune deficiency indications, the patient must be immune deficient for IVIG treatment to be appropriate (the IVIG contains IgG, the deficient antibody). However, for immunomodulatory and inflammatory diagnoses/indications serum IgG is not pertinent as the IVIG mechanism of action differs.

**2. In Ontario (adult, neonatal, pediatric patients), the IVIG dose is calculated based on:**

- a) The patient's ABO blood group.
- b) The brand of IVIG being administered.
- c) The patient's abdominal circumference.
- d) The patient's weight and height.

Answer: d).

Rationale:

d)

As discussed in the presentation, the Ontario IG Utilization Management Guidelines detail a recommended dose as grams per kilogram (g/kg) for each indication. This calculation requires the patient's weight. Also, for adult patients with height 152.4 cm or greater and a BMI of 30 kg/m<sup>2</sup> or greater, the [ideal body weight calculation and IVIG dose calculator](#) are used to minimize potential adverse effects of high dose IVIG and to limit overuse of IVIG (height becomes a factor).

Some hospital TML policies require implementation of the adjusted body weight computation for IVIG dose calculation for all adult patients and pediatric patients whose height is 152.4 cm or greater, (dosing weight is calculated based on the patient's actual weight and ideal body weight; if actual weight is less than ideal body weight, then dosing weight is the patient's actual weight). The formulae for these calculations stem from pharmacy/medication practices.

In certain chronic disease IVIG indications, after the patient has stabilized, the dose and/or treatment interval might be titrated to the lowest dose and/or greatest interval needed to provide clinical effectiveness (verses calculation based on a weight and height).

a), b), and c)

Neither the patient's ABO blood group, brand of IVIG being administered nor abdominal circumference pertain to the IVIG dose calculation.

**NOTE:**

Ontario hospital TMLs scope of practice includes screening (with prescriber follow up if indicated) IVIG treatment requests/orders for appropriate indication and dose. It is also the transfusionists accountability to ensure the indication for IVIG (patient diagnosis, signs and symptoms, laboratory test results) and dose aligns with guidelines/has been approved.

**References:**

Please refer to the references listed in the presentation.