



## IVIG Brands

There are ten different brands of intravenous immune globulin (IVIG) commercially available in the United States:

- Bivigam
- Carimune
- Flebogamma
- Gammagard S/D [low IgA]
- Gammagard Liquid
- Gammaked
- Gammaplex
- Gamunex
- Octagam
- Privigen

No brand has been proven to be more effective than another. Some prescribers may write for a particular brand based on past experience and familiarity. Some payers have limited formularies and may require use of a specific brand. The primary component of IVIG is immune globulin G (IgG) but all brands also contain trace amounts of IgA and IgM. Differences in inactive components as well as other properties can affect a patient clinically and the overall tolerability of IVIG.

Some Ig brands are available as a 5% and/or 10% solution. The volume of a 5% solution is double that for a 10% solution and may or may not be desirable. For example, a 40gm dose requires 800ml of a 5% solution but only 400ml of a 10% solution. The extra volume could be beneficial in those patients who may not orally hydrate well and could help to minimize adverse drug reactions. Conversely, the extra volume could worsen underlying clinical conditions such as CHF, hypertension and renal dysfunction or could take longer to infuse.

The only brands not available in liquid form are Carimune and Gammagard S/D. Because they are powders, these brands must be reconstituted before use. This will increase the visit time if the Nurse has to prepare in the home before administration.

Sucrose has been implicated in the black box warnings for renal dysfunction and acute renal failure. Carimune is the only sucrose-containing brand and should be used with caution in those patients at renal risk, including those with diabetes mellitus, age >65 and those on concomitant nephrotoxic drugs.

Gammagard S/D contains glucose and could be a consideration in diabetic patients. Octagam contains maltose and causes some glucose monitoring systems to give falsely elevated readings, which could lead to the administration of excessive insulin and hypoglycemia. Some brands, including Privigen and Bivigam, contain corn-derived components and may cause problems in those with a corn allergy.

Some patients with low serum IgA develop antibodies against IgA and are at greater risk of developing severe hypersensitivity or anaphylactic reactions. All IVIG brands contain some IgA and vary in the amount. Carimune is at the high end and contains 720mcg/ml in a 6% concentration while some brands contain relatively low amounts of IgA (Flebogamma and Gammaplex). Gammagard S/D contains the least (1mcg/ml in a 5% solution) and is the best brand for those patients with IgA antibodies.

Sometimes IV hydration such as dextrose 5% or sodium chloride 0.9% (normal saline) is ordered in conjunction with IVIG. Some brands are not compatible and should not be diluted or administered concomitantly, or through the same IV tubing, without first being flushed with a compatible solution or changed.

Gamunex and Gammaked are made by the same manufacturer and are identical.

There are just some of the highlights of differences in IVIG brands and other considerations. Knowing a patient's full clinical status and being aware of IVIG brand differences can have a significant impact on patients.

