

Frequently Asked Questions About Whole Blood and the Belmont® Rapid Infuser RI-2

Can whole blood be transfused via the Belmont Rapid Infuser RI-2?

- Yes, processed, anticoagulated whole blood can be transfused via the Belmont Rapid Infuser RI-2. Processed refers to whole blood that has been collected with the intent to transfuse. It is important that the whole blood is anti-coagulated before transfusing via the Rapid Infuser. Users must ensure no procoagulants are added or already within the system when infusing whole blood. Procoagulant solutions include but are not limited to Lactated Ringer's or any solution containing calcium and dextrose in water. This helps prevent clots forming within the disposable system.

Can autologous filtered whole blood be transfused via the Belmont Rapid Infuser RI-2?

- Yes, autologous filtered whole blood can be infused via the Belmont Rapid Infuser RI-2 as long as it is anticoagulated. Belmont recommends, as does the American Association of Blood Banks (AABB), that this blood is washed or processed through a cell saver first. This may help prevent some complications that can be caused by certain components that may be present in unwashed blood¹. Please note any blood or blood products transfused via the Belmont Rapid Infuser RI-2 MUST be anticoagulated. Users must ensure no procoagulants are added or already within the system when infusing whole blood. Procoagulant solutions include but are not limited to Lactated Ringer's or any solution containing calcium and dextrose in water.

Why can whole blood be transfused via the Belmont Rapid Infuser RI-2 but not certain individual components such as platelets or cryoprecipitate?

- One reason these individual components are contraindicated for use with the Belmont Rapid Infuser RI-2 is the risk of diluting the components. Dilution of these components may lessen their efficacy. Additionally, when infused in a ratio of 1 unit of packed red blood cells to 1 unit of fresh frozen plasma to 1 unit of platelets (1:1:1) the blood products delivered to patients are already diluted compared to whole blood. This is mainly due to the combined anticoagulants and preservatives from each component². Due to the higher concentration, combined with less additives/anticoagulants being administered to the patient, the dilution risk is mitigated with whole blood.

What other fluids can be infused through the Belmont Rapid Infuser RI-2?

- Anticoagulated whole blood, packed red blood cells, fresh frozen plasma, certain crystalloid solutions, and certain colloid solutions can be infused via the Belmont Rapid Infuser RI-2. Please see the Belmont Medical Technologies Compatible Fluids List (701-00218-2 Rev. D) for a full list of compatible fluids.

What other fluids can NOT be infused through the Belmont Rapid Infuser RI-2?

- Platelets, cryoprecipitate, granulocyte solutions and drugs or biologics should not be infused via the Belmont Rapid Infuser RI-2. The following solutions should NOT be mixed with blood or blood products: Lactated Ringer's solution, any solution containing calcium, dextrose in water, and hypotonic sodium chloride solutions. Please see the Belmont Medical Technologies Compatible Fluids List (701-00218-2 Rev. D) for a full list of incompatible fluids.

References

1. Waters, Jonathan, Dyga, Robert M. and Yazer, Mark H.. 75. (0000). Guidelines for Blood Recovery and Reinfusion in Surgery and Trauma. <https://aabb.ipublishcentral.com/pdfreader/guidelines-for-blood-recovery-reinfusion-in-surgery-trauma50146715>
2. Pivalizza, Evan G. MD; Stephens, Christopher T. MD; Sridhar, Srikanth MD; Gumbert, Sam D. MD; Rossmann, Susan MD; Bertholf, Marsha F. MD; Bai, Yu MD; Cotton, Bryan A. MD Whole Blood for Resuscitation in Adult Civilian Trauma in 2017: A Narrative Review, *Anesthesia & Analgesia*: July 2018 - Volume 127 - Issue 1 - p 157-162 doi: 10.1213/ANE.0000000000003427