Low Titer Group O Whole Blood Use in Nontrauma Bleeding Patients

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Low titer group O whole blood (LTOWB) is increasingly being used for prehospital transfusion, and, therefore, many partnering hospitals are finding new ways to utilize this valuable resource. Of note, the blood component Circular of Information (COI) states the indication for whole blood is "life-threatening hemorrhage" and does not limit its use to traumatic hemorrhage[1].

While it is ultimately up to each facility on how LTOWB is to be utilized, recent publications describe a potential new interest in transfusing LTOWB to non-traumatically bleeding patients. While most of these articles describe small, retrospective studies which cannot determine the efficacy of LTOWB vs traditional component therapy, we can at least learn how LTOWB is being utilized in various hospitals.

One study describing LTOWB use in non-trauma patients at two hospitals reported that LTOWB is primarily transfused for gastrointestinal bleeding and cardiovascular bleeding[2]. Similar findings were reported in another hospital which reported transfusing LTOWB most frequently in patients with gastrointestinal bleeding. Cardiovascular surgery and nonoperative cardiovascular disease were two of the other more commonly utilized indications for transfusing LTOWB at their location[3]. Another study specifically recounted their experience in transfusing LTOWB in patients with postpartum hemorrhage[4].

Of note, it is important to always consider the specific LTOWB product(s) that each facility transfuses. Is your LTOWB Rh positive? Is it leukoreduced? Patient safety must be considered when implementing any LTOWB transfusion policy. Per the COI, "the transfusing facility must have policies and procedures in place addressing specific indications for use, product specifications, administration instructions, and a defined maximum number of units to be transfused to each patient".[1]

Further studies are needed to help us better understand the efficacy of this product in treating life-threatening hemorrhage for non-trauma indications. Ultimately, each transfusing facility should determine their LTOWB policy – your hospital Transfusion Committee can help determine what is best for your patients.

1.COI Blood Components Carter BloodCare (also available at cbcspecialtyservices.org)
2.Bordas J, Feeney E, Leeper C, Spinella PC, Yazer MH, Kaplan A. Utilization and safety outcomes following the use of low titer group O whole blood in non-trauma patients. Transfusion. 2026.
3.Fadeyi EA, Cox-Jones J, Staggs J, Alwan A, Saha AK, Crosby AJ, et al. Safety and feasibility of cold-stored uncrossmatched whole blood transfusion in civilian non-trauma patients. Transfusion. 2026; 66(4):777–83.
4.Morris DS, Braverman MA, Corean J, et al. Whole blood for postpartum hemorrhage: early experience at two institutions. Transfusion. 2020; 60: S31–S35.