



Quick reference sheet

Whole blood, leukocytes reduced (LrWB)

Whole blood, leukocytes reduced (LrWB) is a blood component made by Canadian Blood Services. **Each unit**, made from an individual whole blood donation, **has red blood cells, platelets, and plasma**. The white blood cell content has been reduced using a leukocyte filter that preserves the platelet content.

LrWB unit characteristics

- Each unit is 496 ml, which is a larger volume than red blood cell units at 287 ml.
- Hematocrit is lower in LrWB units (**41%**) than red blood cell units (**67%**).
- Each unit contains approximately 234 ml of plasma.

LrWB storage

- stored at **1 – 6 °C** and has a **21-day shelf-life**.
- In the prehospital or hospital setting, units must be issued in coolers that have been validated by the transfusing hospital.
- Red blood cells in the unit may settle during storage and can be resuspended using gentle agitation.



Figure 1: Whole blood, leukocytes reduced unit

Protocol and training considerations

- LrWB transfusion should follow the same protocols as red blood cell components.
- All members of the health-care team administering LrWB should be provided with education on its use.



LrWB transfusion considerations

- Compared to traditional component use, citrate exposure is lower and iatrogenic hypocalcemia risk may be lower.
- LrWB may be transfused with normal saline or plasma.
- Group O LrWB may be transfused to recipients of unknown ABO group. Red blood cells in group O LrWB are compatible with nearly all recipients.
- The plasma in group O LrWB contains anti-A and anti-B antibodies but the risk of hemolysis in non-O recipients is mitigated through the selection of whole blood donations with low anti-A and anti-B titers. To further reduce the risk of hemolysis, a limited number of LrWB should be transfused to non-O patients and those without a valid ABO blood group determination.
- ABO-compatible blood components should be used in patients with a known ABO group.

For more information, please refer to:

- **Canadian Blood Services**
 - [Circular of Information for Whole Blood Leukocytes Reduced](#)
- **Canadian Blood Services' professional education website**
 - [FAQ: Whole blood, leukocytes reduced \(LrWB\) at Canadian Blood Services](#)
- **National Advisory Committee on Blood and Blood Products**
 - [Whole Blood, Leukocytes Reduced Recommendations](#)