Major Lawrence Bruce Robertson
The man who introduced a new syringe-cannula technique, which allowed direct donor to patient transfusion.

Effective Blood Transfusion
Throughout the 20th century, milestones in the advancement of blood transfusion were synchronised with the onset of military conflict around the world. Beginning with the new knowledge of matching different blood groups and the use of an anticoagulant that facilitated indirect transfusion.

Prior to the First World War
In 1901 Landsteiner discovered the ABO blood groups. Prior organisation was haphazard in UK with a few exceptions e.g. Lane in London. Blood transfusion was only possible using defibrinated blood. In 1914 Landsteiner discovered the ABO blood groups. In 1914 Landsteiner discovered the ABO blood groups. In 1914 Landsteiner discovered the ABO blood groups. In 1914 Landsteiner discovered the ABO blood groups.

Anticoagulants Facilitated Indirect Transfusion
In Belgium in 1914, Adolph Huston demonstrated that Sodium Citrate, in tolerable quantities, could anticoagulate blood for transfusion. The following year Luis Agote in Argentina and Richard Lewisjohn in the USA, verified its use for this purpose.

Outbreak of World War I
Between 1914 -1917 Canadian Army Major Lawrence Bruce Robertson, introduced a new syringe-cannula technique for performing direct donor to patient transfusion of unmatched blood among the ranks of many casualties.

Blood transfusion was facilitated by the American and the Canadian surgeons arriving at the Western Front. Capt. Oswald H. Robertson MUSC USA in 1918 established the first bank of stored whole blood. Blood that was rare or negative for aplasia, could be given quickly and safely in forward medical units.

The beneficial effect in combating blood loss in major trauma was soon recognised and adopted by British and French surgeons.

The Spanish Civil War 1937-1939
Gave rise to a fresh approach to blood transfusion, hastened by the threat of large numbers of civilian and military casualties. With a major initiative to increase the number of blood donors and to establish large scale blood banks to ensure supplies.

Canadian Norman Bethune, whose WW1 experience taught him the importance of helping the wounded quickly. He set up a blood bank close to the front lines and organized a mobile blood transfusion service, the first of its kind.

Jorda added glucose to the citrate anticoagulant for blood collection improving the viability of transfused red cells which increased the benefits of transfusion.

The subsequent publication of the effectiveness of transfusion, by army surgeons, resulted in its introduction to civilian medical practice.

Onset of World War II
Prior organisation was implemented in UK with a few exceptions e.g. Lane in London. Outbreak of World War II, delineated how blood transfusion support would be provided to military hospitals. In 1939 established of the Army Blood Transfusion Service and opened the Army Blood Supply Depot (ABSD). Commanded by Colonel LEH Whitby RAMC, the first military transfusion service in the world.

Weilty recognised that blood is a perishable commodity, as potentially lethal as it is life saving and had to be handled through special channels by competent trained personnel.

Acid Citrate Dextrose (ACD) Solution
This was introduced in 1943 by J.P. Weil and Patrick L. Mollison. It reduced the volume of anticoagulant, allowing greater volume of blood to be given and permitting longer term storage.