

*transfusion*

***History of Blood transfusion:***

**“First Transfusion” Myth**

In 1492, Pope Innocent is said to have received transfusion of the blood of three ten year old boys, each of whom was paid and all of whom died .Probably the blood was drawn, but was intended to be taken orally. Indeed, there is no reliable evidence that the sickly pope accepted the blood at all .This stories has been told and retold

**Andreas Libavius, 1615**

He was the first person to advocate transfusion, though he is not known to have actually attempted to perform a transfusion.“Let there be a young man, robust, and also an old man, thin, his strength exhausted, hardly able to retain his soul. Let the performer of the operation have two silver tubes fitting into each other. Let him open the artery of the young man, and put it into one of the tubes, fastening it in .Let him immediately after open the artery of the old man, and then the two tubes being joined together, the hot and spirituous blood of the young man will pour into the old one as it were from a fountain of life, and all of his weakness will be dispelled.”

**Circulation**

Understanding the concept of circulation was critical to developing the reality of blood transfusion. Ancient Greeks believed that blood was formed in the heart, then consumed as it flowed out to the body in veins, while air was passed from the lungs to the body in arteries.

Arteries contain blood, but thought that blood was formed in the liver, not suspecting that arteries and veins are attached.

Andrea Cesalpino (1519-1603) used the term ‘circulation’ and believed that the veins and arteries were connected by fine vascular network. William Harvey is generally credited with the discovery in1616 (published in 1628) of the circulation of blood as we now it today.

**Jean Baptiste Denis**

Denis and Emmerez performed transfusion of lamb blood into the carotid artery of a young woman in 1667. Denis reported that the woman passed urine as black as soot following the transfusion, a finding indicative of a hemolytic transfusion reaction, but she survived.

**ANIMAL TO HUMAN TRANSFUSION**

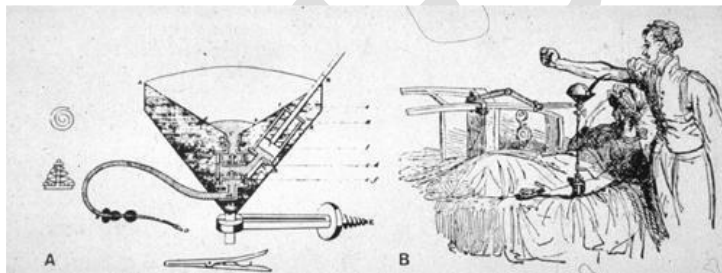


Early lamb blood transfusion

James Blundell



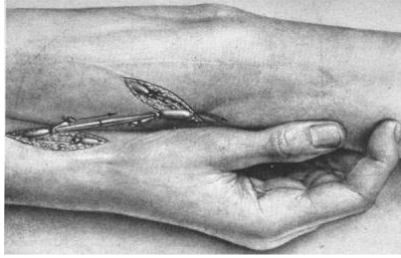
In 1818, James Blundell attempted human-to human transfusion of a man suffering from gastric carcinoma. A dog might come when you whistled, but the animal is small; a calf might have appeared better suited for the purpose, but then it has not been taught to walk properly up the stairs.”



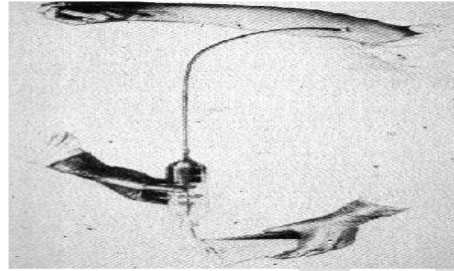
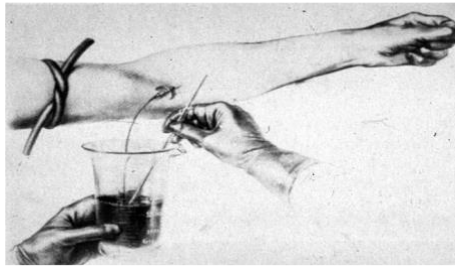
Blundell’s transfusion devices included the impellor (A), which consisted of a cup, tube, and syringe; and the gravitator (B), consisting of a receptacle held high above the patient with an attached tube through which the blood was injected into the patient.

### **Anti-coagulation**

Blundell had observed the need for rapid transfusion in order to prevent coagulation. Direct transfusion (artery to vein for speed) was advocated.



**Lewisohn's Method of Transfusion**



Blood is collected in a citrated flask.....and immediately transfused



The Kimpton-Brown transfusion apparatus was commonly used before citration. It consisted of a paraffin-coated gradient glass cylinder with a horizontal side tube for suction. It was in use until approximately 1918.

### **The Nineteenth Century**

Transfusions in the 1800s were plagued by the complications of transfusion reactions. Panum and Landois showed that same species transfusions were more efficacious than interspecies transfusions. Landois noted that in interspecies transfusion red blood cells were hemolyzed and white blood cells would cease their amoeboid motion and die. However, animal to human transfusions were performed as late as 1890.

• Many patients have died and it was not until 1901, when the Karl Landsteiner discovered human blood groups, that blood transfusions became safer.

**Karl Landsteiner**

**1930 Nobel Prize Laureate**



In 1900, Landsteiner showed that serum from some individuals could agglutinate or hemolyze the red blood cells of certain, but not all, other individuals. The serum of the latter would like wise agglutinate the red blood cells of the former. Still other individuals' red cells were unaffected by the serum from either of these .He named these three different types A, B, and C. Today these are types A, B, and O.

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