Innovation: Blood Transfusion

Blood Transfusion is an unbelievable discovery that has affected people from every medical, religious, political, economic, and social group to various degrees. This innovation in the medical arts has influenced the halls of academia and turned the materials of this medical art into the world of fiction, through stories like the Twilight series and the 1980’s movie ‘Blade.’ This paper will set off on a journey along that path of discovery.

Inquiries regarding blood have been asked since ancient-times. Blood’s true function had always been a mystery to mankind. It has been said that the ancients believed that blood was the most important part to the body, “that it was the seat and source of the passions” (America’s Blood). It is obvious that if someone is bleeding profusely, they will eventually die. This does answer one question, we as living beings need blood to survive. So then the question can be asked, If you cannot produce blood, or have lost an abundant amount of blood, is it possible to take blood from someone else, or something else in order to stay alive? -- Hence, the concept of blood transfusion. The definition of blood transfusion is, “A safe, common procedure in which blood is given to you through an intravenous (IV) line in one of your blood vessels” (National Heart Lung and Blood Institute). The uses of blood transfusion are “to replace blood lost during surgery or due to a serious injury. A transfusion also may be done if your body can not make blood properly because of an illness” (National Heart Lung and Blood Institute).

In 1665 Richard Lower, an Oxford physician, began blood transfusion experiments with the use of canines (Blood Book). His records show that dogs were kept alive by the transfusion from another dog. Animal-to-human experiments were also conducted in the sixteen hundreds.
Jean-Baptiste Denis recorded that he performed a successful transfusion from sheep to humans. Later in 1678, animal-to-human transfusions were believed to be failures, and were then outlawed by the Paris Society of Physicians. Even though a patient might have lived for a short while, they would eventually die of different reactions. One hundred and seventeen years later in 1795, an American physician, Philip Syng Physick, performed the first known human blood transfusion in Philadelphia. After this point in history, more and more successful transfusions occurred all throughout the world.

Although there was a relatively good survival rate during transfusions, many people would die afterwards; the question was—Why? Karl Landsteiner would be the man to answer this question. In 1901 Landsteiner discovered that there were different blood types in human beings, these being A, B, and O. He determined that certain blood types do not mix and would therefore result in one’s body treating the transfused blood like a poison, which would lead to death. Then in 1902, A. Decastrello and A. Sturli found a fourth main blood type, AB. These discoveries would make blood transfusion even more of a success.

Because of blood transfusion, doctors have become more aware of different diseases that can be passed through the blood. This is because they must make sure that any blood that is being donated for a transfusion is not infected with a disease that the recipient might obtain. These diseases can be AIDS, human T-Cell lymphotropic virus that causes a form of leukemia, syphilis, hepatitis B and hepatitis C. Being aware of this can therefore result in more discoveries about these diseases, and maybe even possible cures. Now that doctors and scientists are aware of so many more things in the blood, more questions about blood are continually being asked, and more discoveries are being made. Some scientists at the University of Bonn have discovered a new type of hemoglobin type. “Hemoglobin transports oxygen
through the blood to the body’s cells” (ScienceDaily). Discoveries like this one continue to be made because of the better awareness of blood, and can result in even more lives being saved. In the United States alone nearly five million people receive life-saving blood transfusions per year.

Blood transfusions have also been brought up in the “religious” world, and have become extremely controversial. Jehovah’s Witnesses, a religious group begun by Charles Taze Russell in 1872, are opposed to blood transfusions, and believe that it is wrong because someone else’s blood is being fed into the body (Jehovah’s Witness History). They have come to this conclusion based on their reading of Acts 15:20 in the Bible, “Instead we should write to them, telling them to abstain from food polluted by idols, from sexual immorality, from the meat of strangled animals and from blood.” Jehovah’s Witnesses believe that by not accepting blood they are following God’s command. However, in some cases they do allow parts of blood to be taken. On the contrary, most other religions do not mind blood transfusions, unless they have a personal belief about it (A Voice in the Wilderness).

When studying someone’s blood one can find out many things about that person. In order to live, a human obviously needs blood to survive. This could lead to the conclusion that life is in the blood. Knowing that, many people have come to believe that life is in the blood connecting this to their belief that Jesus died and rose again from the dead. They believe that Jesus died on the cross, and shed His blood so that the human race could live. Therefore, in this case, life is in His blood.

Because of the controversy surrounding blood transfusion, there have been many political impacts. Numerous court cases have taken place about whether or not blood should be given to a patient even if the patient says that they refuse to take it. In one particular case, a
woman gave birth to her baby, but she continued to bleed. The doctors told her that a blood transfusion would have to take place in order to save her life, but she continued to refuse it because of her faith. The doctors then consulted the husband, who spoke for his wife, and he refused the transfusion on her behalf. Then an emergency court hearing took place at the hospital. The judge stated that if the wife did take the blood she would most likely survive, and the judge then ruled that the hospital could proceed to give her blood, even though it was against her and her husband’s wishes. After the transfusion, she recovered and went home with her husband, and newborn baby. Many court cases like this one took place, and continue to take place (Eagle Eye Newsletter for the Nursing Profession).

Blood Banks were created following the innovation of blood transfusion, and have made an impact on the economy. Charles Drew, a black inventor, first thought up blood banks. Drew’s main interest while he was in medical school was blood, specifically blood transfusion. He found out that the plasma in blood could be used effectively in place of whole blood and that plasma had a longer “shelf life” than whole blood. With a longer “shelf life”, plasma could then be stored in banks (Emmerson). The American Association of Blood Banks (AABB) is now an international organization. Throughout the world, AABB is spreading so that in other countries there will be active Blood Banks, which will then result in, saved lives. Blood Banks often acquire great deals of money, which is automatically an economy booster, and now the fact that Blood Banks are continuing to spread will just add to the amount of funds received (AABB).

When thinking of blood transfusion the word social would not come to mind, but in truth, because of blood banking a social aspect has come into play. People can give blood to go towards a transfusion at a blood bank. Blood is given at a bank by volunteering. There are also
many meetings and marathons for people who have given in the past, or are continual blood donors. Going to these “conventions” would open a door to meet new people.

Blood transfusion has not just influenced the medical, political, social, religious, and economic world, but it has also had an effect on the world of art. Multiple authors have included blood transfusion in their books. Stephanie Meyer, the author of the Twilight series, wrote about one of the main characters, Bella, needing a blood transfusion. At the end of the book, Twilight, Bella had lost too much blood when being attacked by a vampire, and while in the hospital recovering she received a blood transfusion. Her vampire boyfriend, Edward, did not like her scent during that time because she smelled of other blood. In addition, in the nineteen eighties movie ‘Blade’, the main character, Blade, a half vampire, fights against vampires. He injects himself with a special serum to quench his thirst for human blood. Serum is, the clear yellowish fluid obtained upon separating whole blood into its solid and liquid components after it has been allowed to clot. This procedure is a lot like blood transfusion. Even though Blade is not using it to “survive” in the literal sense, he is still having a form of blood transfusion.

Truthfully, the whole concept of how blood transfusion came to be is an art. Not in the appealing, beautiful sense, but as in ingenious and unique, it takes talent to come up with something so phenomenal.

Blood transfusion has literally changed the world. Not many things affect almost every part of society in some way or another like blood transfusion has. As evidence of the impact that blood transfusion has had on the world today, every one of us knows someone who has either received or given transfused blood. Due to this innovation, millions of citizens in the United
States alone have been saved and now millions more around the globe will be able to be in this world another day.
Primary Sources


I found information on the Jehovah’s Witness religion. I was able to find when it was created, and by whom.
Secondary Sources

- Information about how blood transfusion was used in the 1980’s movie Blade was present on this website.

- There was a new discovery found about the hemoglobin in human blood. On this website I was able to find out what Hemoglobin was, and about the new discovery that was discovered.

- Here I was able to find information on the basic procedure of blood transfusion. This website was very easy to use, it was organized nicely.

- This website was useful in finding controversial situations about blood transfusion. This one was perfect because it had to do with Jehovah’s Witness and blood transfusion.

- In this site I was able to find additional information on how transfusion takes place. This seemed to be a rather reliable site since it was from doctors research.

- I obtained the definition of blood transfusion on this website. This particular site focused a lot on the reasons for blood transfusions to take place.

- Here there was additional information about blood transfusions. Information about how many people are saved every year because of transfusions was present on this site.

- Information about Charles Drew, a black inventor who discovered blood banking, was present on this website. This was an online magazine article by Cassidy Emmerson. The information present was very useful.

- Here I was able to find information on how some religions believe that “Life is in the Blood.” On this website it contrasted the differing beliefs between Jehovah’s Witness and just the Christian faith.


- This site focused mainly on Jehovah’s Witness and their views on blood transfusion. I found it very interesting how they are opposed to it, and why they are.


- I was able to find out that Blood Banks have spread worldwide. This website was awesome because it had many different things that you could look at about blood banking. It had a lot of useful information.


- While doing my research I came across the word serum, but I didn’t know what it even meant. This website helped me in finding out what this world meant.


- The history of blood transfusion, all the way back to 1492, was present on this website. This was so convenient to have because then I could see how much it has evolved, and affected things throughout the years. I referenced this site quite a few times while writing my paper.


- This website gave me specific information about why Jehovah’s Witness refuse blood transfusions. I used other sites answering the same question, but some went more into depth than others.