患者氏名 ：
患者 ID ：

Information about Blood Transfusions

1. What is a blood transfusion?

- A blood transfusion is an important therapy that is used to replenish each of the blood components (such as red blood cells, platelets, protein components, and blood coagulation factors) when their function or amount is reduced.
- A blood transfusion can have a certain degree of risk. It is, therefore, used only when we expect good results.

2. Indications for blood transfusions

- When a patient cannot produce enough blood by himself/herself.
- When a patient's life is threatened by massive bleeding caused by disease, surgery or an injury.

3. Blood products for each blood component

- "Red cell products" are used when a patient has anemia, which is a deficiency in red blood cells.
- "Platelet products" are used when platelets, which play an important role in stopping bleeding, are deficient.
- "Plasma products" are used when blood coagulation factors are deficient or circulating plasma volume is reduced.
- "Whole blood products", which contain all of the blood components, are used when a patient has massive bleeding or is in shock.

4. Options for blood transfusions

- If drugs are available for treatment, we may observe the patient's condition without giving a blood transfusion.
- There are two types of blood transfusion: allogeneic transfusion, which uses donated blood from other people, and autologous transfusion, which uses one's own blood.

  Allogeneic transfusion・・・In principle, only necessary blood components are transfused using blood products provided from the Japanese Red Cross, such as red cell products, platelet products, or fresh frozen plasma. In principle, allogeneic transfusion starts with a minimal volume of the necessary components.

  Autologous transfusion・・・A patient's own blood is collected before surgery and no adverse reactions will occur when the patient receives the transfusion.
  Autologous transfusion is, however, usually limited to patients expecting surgery, whose general condition is good, and who do not have complications, such as infection. Therefore, not all patients can have this type of transfusion. If blood loss is massive, allogeneic blood may be used in combination with the patient's own blood.
- For blood transfusions, in principle, only the necessary blood components are used.

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5. Risk from not having a blood transfusion

- If red blood cells are deficient and you become severely anemic, each organ will lack oxygen, which may result in a severe physical condition.
- When platelets and blood coagulation factors are deficient, you may have severe bleeding.
- When circulating plasma volume or circulating blood volume is reduced, your blood pressure drops, which can endanger your life.

6. Risks from blood transfusions

- The Japanese Red Cross performs all of the currently available tests for its blood products and confirms their safety. The risk of infection after a transfusion, such as hepatitis B, hepatitis C, and AIDS, is therefore very low. However, this does not mean that there is no risk.
- Because blood products are derived from other people's blood, the immune response may cause adverse reactions, ranging from mild (e.g. hives, chills, fever, or hypotension) to severe (e.g. hemolytic transfusion reaction). In addition, frequent platelet transfusions may cause the production of antibodies against the platelets, which results in platelet-transfusion refractoriness (PTR: a state in which no beneficial effects of transfusion are observed). Major adverse reactions are listed below.

<Adverse reaction>
Fever and/or hives
Asthma
Shock (hypotension and difficulty in breathing)
Hepatitis B or C
Non-B non-C (NBNC) hepatitis
HTLV-I, HIV, or other unknown virus infection
Transfusion-associated graft versus host disease (GVHD)
Production of immune antibodies
Syphilis, malaria, or anaphylaxis in IgA-deficient patients

- White blood cells (lymphocytes) in blood products may attack and destroy your organs. This is called transfusion-associated graft versus host disease (GVHD). It is a fatal adverse reaction to a blood transfusion.
  No effective treatment for transfusion-associated GVHD has been established yet. Prevention of its onset is the only strategy.

7. Measures to reduce the risk of blood transfusions

- We irradiate blood products to prevent transfusion-associated GVHD.
- Prior to a blood transfusion, we test and confirm that the selected blood products are appropriate for you. In addition, doctors, nurses, and technicians confirm the identity of the products several times before the transfusion to prevent an accident.

8. Emergency procedures

- In case of a life-threatening emergency or if your attending doctor decides that you need a blood transfusion during your treatment, the type of blood transfusion will be selected by your attending doctor.

9. Relief system for sufferers from adverse reactions and infectious diseases, and qualification for receiving benefits

- Although blood products are properly used, you may suffer from infections or other adverse reactions because of these products. If your health is impacted negatively, such as by disease or disability for which you need to be hospitalized for treatment, you can use the system to receive benefits, including medical expenses, medical allowance, and disability pension.

10. Tests for infectious diseases and storage of your blood samples

- To confirm whether blood transfusion causes viral infections, your blood is tested for infections, including hepatitis B and C viruses and HIV viruses, before transfusion. It is recommended that you perform the same test after the transfusion (i.e. after three months). In addition, your blood samples collected for these tests will be reserved for a specified period of time (generally more than one year) to investigate any causes in case you have a viral infection or adverse reaction because of the blood transfusion.

11. Provision of information to the manufacturer

- Please understand that we may provide your information to the manufacturer if we consider it necessary to prevent the occurrence or spread of harm associated with blood transfusion.

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12. Retention of records

- Records related to blood transfusions are retained for twenty years from the day the transfusion is performed.

Above, we have summarized blood transfusion procedures; however, actual transfusions vary depending on the disease and condition of each patient. If you have any questions, please feel free to ask your doctor.

***By signing below, I confirm that I have read and understood the information provided above.**

Date (YYYY/MM/DD):_____/_____/_____

Patient's signature:_____