BLOOD TRANSFUSION

Please read carefully the following information regarding blood transfusions since you will, in all probability, require a blood transfusion during the course of your scheduled surgery. Please consult with your anesthesiologist and treating doctor regarding any questions you may have.

The surgeon and the anesthesiologist will do their utmost to minimize blood loss. Arresting bleeding of the big veins is the surgeon's responsibility while the anesthesiologist has the ability, up to a point, to influence and decrease bleeding of the small veins with medication.

WHAT IS A BLOOD TRANSFUSION?

Blood transfusion is the process of transferring blood or blood-based products into a person's circulatory system while ensuring sterility, biological harmlessness, maintaining biological effectiveness and avoiding possible complications. The blood or blood based product to be transferred is blood that has been examined and stored according to strict protocols.

WHEN IS BLOOD TRANSFUSION NECESSARY?

- In case of deficiency: blood loss, exsanguination or anemia due to destruction of red blood cells,
- when significant loss of circulating blood during a surgical intervention is expected,
- when the production of certain basic elements (i.e., red blood cells, white blood cells, platelets, plasma, coagulation factor) is insufficient or is gradually destroyed and cannot be substituted by other means (i.e., medication, infusion solution), only with a transfusion.

THE MOST COMMON FORMS OF BLOOD TRANSFUSIONS

Complete blood transfusions are rarely given nowadays, only in cases of accidents, illnesses or in cases of surgery where the patients loose a great amount of blood in a short time.

Red Blood Cell Transfusion

This is the best known and most common form of blood transfusion containing the red blood cells and small amount of plasma from the donor blood as well as the solution feeding the red blood cells. It is given and justified when the patient's anemia cannot be improved with medication and the anemia is of such magnitude that the red blood cells as well as the blood pigment is not sufficient for transporting the indispensable oxygen.

The doctors here do not strive to recover the "normal" values but supplement the necessary amounts.

Platelet Transfusion

Platelets generally need to be supplemented when the bone marrow is not able to produce enough resulting in such a degree of deficiency as to cause the patient to become hemophiliac. The platelets are separated out from the complete blood received through centrifugation into a separate closed bag. Since patients needing such a transfusion require a relatively large amount, platelets from 4 to 8 blood donors of equal blood type are usually collected in one bag.

Blood Plasma

Blood plasma contains an inordinate amount of various important proteins which might need to be supplemented in cases of great amount of blood loss.

WHAT ARE THE CHANCES OF AVOIDING DONOR BLOOD?

In autologous blood transfusion the patient is transfused with his or her own blood.

Three methods of collecting blood are available:

- before surgery,
- during surgery,
- blood salvage during surgery.

Collecting blood before surgery.

Patients awaiting scheduled surgery may give blood for their own use.

Taking into consideration the complications associated with transfusions and the infections passed on with blood products, the safest method is transfusion using our own blood wherein the risk of febrile and allergic reactions is small and diseases cannot be passed on. The risk of infections still exists even with this blood transfusion method and there are complications that may arise due to destruction of blood cells. Since in this instance the patient receives his or her own red blood cells or other cells back, the blood donor examination and the examination and choice of donor is simplified. If, for example, hepatitis or cancer is found in the patient's history, these would not be a disqualifying cause

If at the time the blood was drawn there was no anemia and plenty of iron was stored, then the drawn blood will regenerate in a relatively short time.

Since, in the case of autologous transfusions, the requirements for donating blood are not very strict, the blood thus obtained may only be used by the person who donated it. No other person may receive it even if it was not needed during surgery.

The donation of autologous blood and the storage and transportation of blood products takes place at one of the Hungarian National Blood Transfusion Service (Országos Vérellátó Szolgálat) centers closest to your place of residence.

You will be asked to donate blood two or three times. A concentrate of red blood cells and plasma will be prepared from the blood drawn to ensure that you will be given the amount and quality of

blood required. The red blood cell concentrate may be stored for 35 days from the day it was drawn before use, while the blood plasma for 12 months.

Collecting blood during surgery (Hemodilution)

In this procedure, the anesthesiologist will draw one to two units of blood in the operating room immediately before surgery and augment it with an infusion solution. This blood will be returned to you either during or at the end of the surgery.

Salvaging blood during surgery

Bleeding may occur in the most precise surgical procedure. In blood salvage the lost blood is drawn during surgery into a liquid containing an anticoagulant and given back to you after filtration or only red blood cells are given back after washing and centrifugation. The process is performed with the help of a cell saver device. Autologous blood has the longest life and is closest to normal blood.

THE BLOOD TRANSFUSION PROCESS

The blood or blood product chosen for you at the Transfusion Service following laboratory tests will be stored in our blood bank under strict conditions, until needed. When the transfusion becomes necessary, the doctor ordering the transfusion will again check the blood type (OAB Rh factor). Then, under controlled circumstances, a cross check will follow by joining a blood sample taken from you with the blood to be used to avoid even more possible infections. If the results are acceptable, the transfusion will be administered in the form of drip infusion. The doctor will remain by you for the first five minutes to make sure no acute complications arise following which you will be kept under close doctor and nurse supervision.

WHAT ARE THE CONSEQUENCES SHOULD THE TRANSFUSION BE CANCELLED?

Since transfusions do come with hidden dangers and are usually recommended in critical cases such as serious bleeding and coagulation disorders threatening mortal hemorrhage, the result of cancelling a transfusion would most often be death. In less serious instances, the lack of transfusion would cause weakness, loss of strength, dizziness, sleepiness and a longer period of recovery.

WHAT COMPLICATIONS ARE ASSOCIATED WITH BLOOD TRANSFUSIONS?

In addition to advantages, transfusions do have disadvantages. First of all, the foreign cells introduced are never totally equal to the individual's own cells. This may cause fevers, kidney disorders, allergic skin reactions and other complications in spite of the fact that laboratory tests did not indicate same. These complications are currently, per our experience, under 1%. Some infectious diseases (i.e., hepatitis, possible AIDS) may be transmitted through blood transfusions in spite of the negative results of the specified screening. Transfusing a wrong blood type blood may result in deadly complications in which case the doctor administering the transfusion may be called upon to answer for his or her actions in court. Since, at the National Center for Spinal Disorders, we give each of our patients only selected blood that has been laboratory tested, transfusion complications due to mistaken blood typing is not possible.

CONSENT TO BLOOD TRANSFUSION

Name:……

Place and Date of Birth: …………., ……..year…….month…….day

Address: …………

Legal Guardian/Name of Parent: …………..

Blood Transfusion Information No.: ISO/003

I, the undersigned, do hereby certify that I have read the foregoing detailed material regarding blood transfusion its purpose and possible dangers.

I understand that the blood product prepared from human blood is necessary for my recovery. I also understand that, in spite of all the mandatory and preliminary examinations, the transfusions do have hidden risks. I was further made to understand that, in spite of negative examination results, the infection causing agent of primarily hepatitis may be transferred.

The above information was passed on to me as it relates to my condition in a manner understood by me by:

Dr. …….

I, therefore, agree and request that the blood product prepared by the Hungarian National Blood Transfusion Service from human blood be given to me. I have read and understood the material entitled "BLOOD TRANSFUSION" regarding the reason for blood transfusion and its possible risks.

……
Patient or Legal Guardian
(Legible Signature)

Budapest, ……..year…….month…….day

We, in his presence and in the presence of each other, signed our names as witnesses:

…… ……
Witness (L*egible Signature*) Witness *(Legible Signature)*

I, the undersigned, am signing this Consent to Blood Transfusion with the attached restrictions.
Restricting certification No.: .....

……
Patient or Legal Guardian
(Legible Signature)

Budapest, ……..year…….month…….day