Informed Consent for Blood Transfusion

Transfusion of blood and blood components is the most commonly performed hospital procedure in the US. Blood transfusions in many cases are critical for clinical management and can be lifesaving. However, transfusions are also associated with serious infectious and non-infectious risks. Patients needing blood transfusion require full information on these benefits and risks in order to make informed consent.

If patient is unable to give consent, a legally authorized representative or surrogate may do so (depending on local law and state law). If no one is available to provide consent and the need for transfusion is considered a medical emergency, the blood components may be administered based on the doctrine of implied consent. The emergent need for transfusion should be carefully documented in the medical record.

Informed consent for blood transfusion is a requirement of The Joint Commission as well as AABB (formerly the American Association of Blood Banks). Specifically, AABB standards indicates that at a minimum, elements of consent shall include all of the following:

- A description of the risks, benefits, and treatment alternatives (including nontreatment)
- The opportunity to ask questions
- The right to accept or refuse transfusion

Informed consent is a process requiring a knowledgeable physician (or advanced practice provider), adequate transfer of information, and consent of the patient. It is not just a signature on a piece of paper. It is indispensable to make sure that the patient understands the benefits, associated risks, and alternatives of blood transfusion.

The nurses are responsible for verifying that the consent has been obtained before blood administration. This does not mean that it is the nurse’s responsibility to obtain the consent, but the nurse’s role as advocate is to ensure that the patient has been informed.

Consent for non-emergent transfusion does not have to be obtained before each individual transfusion of blood or blood products but should be obtained when management decisions are made. Usually for surgical procedures, consent is valid for only periprocedural transfusions. For inpatient, consent is valid no longer than that hospitalization. For outpatient, consent may be valid as long as the clinical situation or treatment plan has not changed (usually up to one year).

At Saint Luke’s Health System, the consent for blood transfusion is obtained either as part of consent for surgical procedure via “Consent to Operation, Treatment, Transfusion or Other procedure” form (SLHS entity specific) or separately via “Consent to Receive Transfusion of Blood or Components” form (SYS-368). These forms are signed by physician and patient in the presence of a witness and are scanned into medical record of the patient.

Cytology versus Flow Cytometric Analysis of Body Cavity Effusions

Cytology of lymphocyte-rich effusion is extremely difficult to interpret purely based on microscopy. This is due to a wide range of diseases which can produce effusions including benign conditions such as post-traumatic, inflammatory (infections or connective tissue disorder), circulatory (congestive heart failure and central lymphatic obstruction), liver or kidney dysfunction disorders, and malignant conditions including metastatic (lungs, breasts, ovaries, pancreas, etc.) or primary (mesotheliomas and primary effusion lymphoma).

Malignant pleural effusions are most common in patients with hematological malignancies, with up to 48% reported in some facilities. On the other
hand, peritoneal and pericardial cavities are less commonly involved. The presence of cells of a hematological malignancy in effusions usually indicates advanced and generalized disease.

In the majority of cases, the presence of carcinoma, mesothelioma, or sarcoma cells in a pleural effusion is obvious microscopically. However, identification of lymphoma cells in fluids, especially of the indolent lymphoma subtypes, is usually challenging due to deceptively bland cytological appearance of the malignant cells, as compared to the striking atypia seen in cells in reactive conditions.

Flow cytometric analysis is a powerful tool, used for characterization of individual cells according to their surface antigenicity. When applied on a large number of cells, flow cytometric analysis can precisely define and separate the population based on presence or absence of cell surface markers. For example, B cells can be easily delineated from T cells due to expression of CD20 and CD3, respectively, on the cell surface. Further separation of B cells in relation to co-expression of CD5 or CD10 and immunoglobulin surface light chains can be achieved accurately in a short amount of time. Similarly, for T cell neoplasms, loss of pan-T cell surface markers or aberrant co-expression can be conveniently identified using flow cytometric analysis.

A comparative study performed between flow cytometry and cytomorphology results in 92 body fluids, including 61 effusions and 31 bronchoalveolar lavage, revealed overall concordance of 75% (61% were true double negative, 12% were true double positive, and 2% double false negative). Flow cytometric analysis was falsely negative in one case of cytologically apparent malignancy, while flow cytometry was positive in 8 falsely negative body fluids in cytomorphology only (Cesana C, et. al. Leuk Res 2010;34:1027 -1034).

To ensure appropriate use of resources, not all lymphocyte-rich effusions should undergo flow cytometric analysis and should be restricted to the following:

- A documented history of hematopoietic malignancy
- A strong clinical suspicion of malignancy

- Atypical cytologic or morphologic features suspicious of hematopoietic malignancy

Flow cytometric analysis is performed at Saint Luke’s Hospital, Monday-Friday. Specimen requirement is 10 mL fluid promptly transported at room temperature within 24 hours of collection.

**New Yeast Beast & Expanded Testing**

The CDC first alerted clinicians and laboratories to a newly recognized multi-drug resistant yeast, *Candida auris*, in June 2016. In addition to being resistant to multiple anti-fungal agents, this *Candida* species is significant because it causes invasive infections with a high mortality rate. Furthermore, patients can be colonized with the organism, which increases the likelihood of transmission from patient-to-patient in a hospital setting. CDC recommendations regarding *Candida auris* have recently been updated and information for clinicians is accessible at [cdc.gov/fungal/diseases/candidiasis/](http://cdc.gov/fungal/diseases/candidiasis/).

*Candida auris* was initially recognized in Japan in 2009, with international distribution confirmed by 2016. Through August 2017, 153 *C. auris* infections have been reported by U.S. healthcare facilities. The majority were bloodstream infections (54%) with the remainder from a variety of sources, including sputum and urine. Some of the infections were recognized in patients who had previously been hospitalized outside the U.S. Likewise, treatment failure of a Candida infection from any body site should alert physicians to the possible presence of *C. auris*. Traditional identification methods used by microbiology laboratories may misidentify *C. auris* as another *Candida* species or give no identification. Mass spectrometry (MALDI-TOF) and sequencing methodologies are most likely to provide accurate identifications. Saint Luke’s Microbiology utilizes MALDI-TOF technology for yeast identification.

Beginning November 2017, Microbiology will perform an expanded yeast susceptibility on *Candida* species. In addition to fluconazole, reported anti-fungal agents will include caspofungin, micafungin, itraconazole, and voriconazole. Susceptibility testing and identification to species level is performed routinely on *Candida* species isolated from sterile body sites and upon request when isolated from other sites.