Donor Qualification for Hematopoietic Cell Transplantation

3

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3.1 Introduction

Donor qualification assessment is a critical step in ensuring the safety and efficacy of the hematopoietic progenitor cell (HPC) transplantation process. Donor qualification refers to aspects of the donor that may affect safety of the donor, safety of the recipient, and success of the HPC transplantation in the recipient. This definition is synonymous with the term "donor suitability" used by the World Marrow Donor Association (WMDA) and American Association of Blood Banks (AABB). However, the term donor qualification is used for clarity because the term donor suitability can have different connotations in various contexts. For example, in FACT accreditation parlance, donor suitability is defined more narrowly as issues "that relate to the general health or medical fitness of the donor to undergo the collection procedure." In FDA parlance, in contrast, "donor suitability" is used interchangeably with "donor eligibility" or the infectious disease risk of the donor to recipient safety. The chapter provides an overview of the most important concepts in donor qualification assessment and a practical framework of how to systematically evaluate donor qualification.

3.2 Importance of Donor Qualification

Before a willing donor can proceed to donating a hematopoietic progenitor cell (HPC) product, the donor must be qualified. The purpose of donor qualification is to ensure safety of the donor and recipient, as well as safety and efficacy of the collected product. Although donor qualification is typically performed by the clinical

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program, it is important for collection and processing facilities to understand the criteria used for proper donor qualification and document review of donor qualification. First, collection facilities must be informed of any medical issues in the donor impacting potential safety during the collection procedure. Second, collection facilities should confirm proper donor eligibility determination, and, in the event of an ineligible donor, collection and processing facilities must obtain urgent medical need documentation from the clinical program and ideally confirm both donor and recipient informed consent. Third, collection and processing facilities must label their products accordingly to eligibility determination data (or infectious disease testing for autologous donors). Lastly, for allogeneic donors, a summary of donor eligibility must accompany the HPC product whenever transported.

3.3 Basic Tenets of Donor Qualification

Donor qualification can be subdivided into three general considerations: (1) donor safety, (2) recipient safety, and (3) donor eligibility determination. The first, donor safety, applies to both autologous and allogeneic donors and assesses whether the donor can safely undergo the collection procedure. Thus, it focuses on the risk of the collection procedure to the donor's health. The latter two, recipient safety and donor eligibility, apply to allogeneic donors. Recipient safety assesses whether the donor has a medical condition—genetic, autoimmune, malignant, or infectious—which might be a risk to the intended recipient's health. Donor eligibility determination is a specific aspect of recipient safety, assessing the donor's potential to transmit an infectious disease to the recipient. This chapter is organized around these three issues. Human leukocyte antigen (HLA-A, HLA-B, HLA-C, and DRB1 is standard) matching between donor and recipient is critically important but is beyond the scope of this chapter; the reader is referred to guidelines published by organizations such as the National Marrow Donor Program or the Blood and Marrow Transplant Clinical Trials Network.

Donor qualification must be performed by healthcare providers with appropriate qualifications and training, and adequate knowledge of relevant federal regulations and accreditation requirements, to properly perform such assessments. Donor qualification must be performed prior to donor mobilization (as applicable) and recipient conditioning, but as close to the collection date as feasible, at maximum, within 90 days prior to collection. Donor blood testing for relevant communicable disease should be performed within 30 days prior to collection. The World Marrow Donor Association provides recommendations on maximum permissible intervals between assessment and collection (please see Table 3.5 at www.worldmarrow.org/donorsuitability).

3.4 Key Considerations During the Donor Qualification Process

A donor related to the recipient may be willing to accept a higher degree of personal risk related to donation than unrelated donors, which should be considered in evaluating donor risk: benefit ratio. Possible coercion, however, especially of related

donors who may be under familial pressure to donate, must also be prevented by having a qualified health provider other than the recipient's transplant physician obtain informed consent.

Although a donor typically undergoes full informed consent later in the qualification process, it is important to perform donor education and medical screening at the time of recruitment or immediately prior to HLA typing in order to gauge donor willingness and appropriateness, clearly delineate expectations, and expeditiously defer any ineligible donors. Donors must be made aware that they are expected to share information about personal health issues that potentially affect recipient safety. By discussing donor and recipient safety issues up front, potential delays to transplant or potential guilt of donors who are HLA-matched but not otherwise eligible due to lifestyle or medical conditions can be avoided. The World Marrow Donor Association has recommendations on the minimum donor information that should be requested at sequential stages of qualification (refer to Tables 3.1, 3.2 and 3.3 at www.worldmarrow.org/donorsuitability).

There are many required elements to proper informed consent, a discussion of which are beyond the scope of this chapter. The reader is referred to FDA regulations (CFR 21, Chapter I, Part 50) as well as accreditation organization standards (FACT/JACIE (Joint Accreditation Committee-ISCT & EBMT), AABB) for further details (see Chap. 2). At minimum, informed consent should describe the risks and benefits of the collection process and procedure, its relevance and consequences of refusal to the potential recipient, short- and long-term risks and side effects of donation, required testing, donor rights and confidentiality, communication and sharing of donor qualification data, insurance coverage for possible adverse events, the possibility of future donation requests, and rights to and ownership of the collected product.

3.5 Evaluation of Donor Safety

Donor safety assesses whether the donor can safely undergo the collection procedure. Donor safety criteria, especially for unrelated donors, are generally stringent because HPC donation is an altruistic act. A licensed healthcare professional should perform a comprehensive assessment of donor safety within 90 days prior to collection that includes review of current and past health issues, medications and allergies, physical exam, and lab testing. Certain donor safety evaluations are required by accreditation organizations (Table 3.1). Importantly, for allogeneic donors, the healthcare provider evaluating donor safety cannot be the same one primarily responsible for care of the recipient, due to conflict of interest. Furthermore for allo geneic donors, an independent donor advocate should be available, especially for minors or people with mental disabilities (Bitan et al. 2016; van Walraven et al. 2010). Although standard for unrelated donors, ensuring impartiality of the donor safety evaluation is especially relevant for related donors since, in light of the efficacy, safety, and availability of fully HLA-matched sibling donor (MSD) transplant, donor safety criteria tend to be more flexible than for unrelated donors (Worel et al. 2015).

Table 3.1 Donor safety requirements for hematopoietic progenitor cell donors

Accreditation organization	Donor safety requirements for HPC donors
FACT/JACIE and AABB	–Defined donor qualification criteria, including for pediatric and elderly donors –Donor safety determination: for allogeneic donors, by a licensed health care professional not directly involved in recipient care –Written assessment of donor safety performed by a qualified health care professional immediately prior to each collection procedure –Complete blood count with platelet count within 24 h prior to each subsequent collection procedure
FACT/JACIE	–Donor advocate for allogeneic donors who are minors or mentally incapacitated –Defined minimal peripheral blood count criteria to proceed with the collection procedure
AABB	–Access to donor advocate for all allogeneic donors –Defined criteria for discontinuation of collection due to medical complications

FACT Foundation for the Accreditation of Cellular Therapy, *JACIE* Joint Accreditation Committee-ISCT and EBMT, *AABB* American Association of Blood Banks

Importantly, focused evaluation of donor safety should periodically continue after initial donor qualification, as donor circumstances may change. Indeed, FACT/JACIE and AABB require an update of donor safety issues by a qualified healthcare professional immediately prior to each collection (see Chaps. 1 and 2). In order to assist with qualification of donors with medical health issues, the World Marrow Donor Association established and maintains recommended acceptance criteria for many medical conditions at www.worldmarrow.org/donorsuitability (World Marrow Donor Association Clinical Working Group C 2016). If a donor does have significant medical issues, a specialist familiar with the process and risks of the donation procedure should be consulted to determine if a more than minimally increased risk over the baseline safety profile of the HPC collection procedure exists.

HPC collection can be accomplished by either bone marrow (BM) harvest or peripheral blood (PB) $CD34^+$ cell (hematopoietic progenitor cell-apheresis [HPC-apheresis]) collection, and certain aspects of donor safety are specific to each collection procedure type (Table 3.2). For BM collection, there are risks from the surgical procedure and its associations such as anesthesia, and with HPC-Apheresis collection, there are risks from the apheresis procedure(s) and mobilization agents such as G-CSF. Although serious adverse events (SAEs) are less frequent and donor recovery is shorter with HPC, Apheresis compared to BM collection, <1% of donors of either type of collection (BM or PB) experience SAE (Burns et al. 2016; Pulsipher et al. 2014; Halter et al. 2009). There are higher incidences of donation-associated adverse events with obesity (BMI > 40), older age, and female gender (Pulsipher et al. 2013). In general, allogeneic donors must have stable and good mental and physical health, especially unrelated donors. Female donors cannot be pregnant,

Table 3.2 Recommended donor safety determination by type of collection procedure

Procedure type	History and physical	Other assessment
BM and PB hematopoietic progenitor cell collection	Pregnancy; acute medical conditions; significant cardiac, cerebrovascular, renal, or pulmonary disease	CBC with differential, Chem 20, pregnancy screen (within 7 days of collection), urinalysis, type and screen Optional: CXR, EKG
BM collection only	Serious neck, back, spine, or hip conditions/surgery; oropharyngeal disease; obstructive sleep apnea; potential need for red cell transfusion; bleeding risk/condition	American Society of Anesthesiologists Physical Status (ASA-PS) classification system
PB progenitor cell collection only	Need for and risk with central venous access placement, sickle cell disease or other hemoglobinopathies, splenomegaly, breastfeeding, autoimmune disease, inflammatory eye conditions, deep venous thrombosis or pulmonary embolism risk, thrombocytopenia <150,000/μl, significant liver disease, lithium use	Optional but suggested: hemoglobin fractionation

and breastfeeding should be halted during anesthetic, G-CSF, or plerixafor administration. FACT/JACIE Standards require that pregnancy testing be performed within 7 days prior to starting the donor mobilization regimen and also within 7 days prior to initiation of the recipient's preparative regimen.

BM harvest is the operative extraction of bone marrow, typically under general anesthesia, through multiple punctures of the cortical bone, most commonly the iliac crest. An individual's preoperative physical status can be assessed using the American Society of Anesthesiologists Physical Status (ASA-PS) classification system (Hackett et al. 2015; American Society of Anesthesiologists 2014). People with pre-existing cardiac ischemia, heart failure, cerebrovascular disease, insulin-dependent diabetes mellitus, or renal dysfunction are at higher risk of adverse events with general anesthesia (Kristensen et al. 2014; Fleisher et al. 2014). People with pre-existing neurologic, cardiovascular, or pulmonary issues are also at risk for long-term cognitive dysfunction with general anesthesia, so their safety deserves careful consideration by a disease specialist familiar with the collection procedure. Donors with serious oropharyngeal, neck, back, spine, or hip conditions; abnormal platelet function; or malignant hyperthermia should be precluded due to the risks of anesthesia; potential bone, nerve, or vessel damage; and bleeding. A high recipient to donor blood volume may require a relatively high volume of bone marrow to be collected; in such cases, preoperative autologous donation should be considered to avoid potential allogeneic red cell transfusion.

HPC, Apheresis collection is the collection of HPC through apheresis after mobilizing HPC from the BM into the PB via the subcutaneous administration most commonly of G-CSF for 4–5 days and sometimes with plerixafor (in autologous setting only). A normal baseline platelet count is desirable because large volume leukapheresis can significantly lower the platelet count. The risk of potential central venous catheter placement must be evaluated, especially in younger donors who may require general anesthesia. Plerixafor is primarily cleared by the kidneys and should be dose-reduced by one third in patients with creatinine clearance ≤50 ml/min. Administration of G-CSF also requires specific considerations. Potential donors must be screened for sickle cell disease because G-CSF can cause life-threatening vaso-occlusion. Not all patients with sickle cell disease are symptomatic, so although hemoglobin fractionation is not required, it is suggested. Although the G-CSF package insert also asserts contraindication in sickle cell trait, literature suggests G-CSF mobilization is safe with trait (Kang et al. 2002; Panch et al. 2016). G-CSF can cause splenic enlargement and rarely rupture, so donors with pre-existing splenomegaly, such as with thalassemia, need to be carefully evaluated. G-CSF can precipitate inflammatory eye disease (Parkkali et al. 1996; Tsuchiyama et al. 2000) and gout (Spitzer et al. 1998), exacerbate autoimmune disorders (Snowden et al. 2012; Kroschinsky et al. 2004), and elevate serum alkaline phosphatase and LDH. Drug interactions between lithium and G-CSF may exacerbate the neutrophilia observed with G-CSF alone. G-CSF may cause transient hypercoagulability, so donors with a history or risk of venous thrombosis or pulmonary embolism may need venous thromboembolism prophylaxis. G-CSF can cause hematuria and glomerulonephritis (Pulsipher et al. 2014; Lee et al. 2016), so donors with hematuria on urinalysis or known immune nephropathy may require exclusion. G-CSF can cause acute respiratory distress syndrome and alveolar hemorrhage, so donors with significant respiratory conditions should probably be excluded. Evidence suggests that there is no increased risk of malignancy with G-CSF administration; long-term follow-up of pediatric donors receiving G-CSF is currently being studied, but no data to date suggest concern.

3.6 Evaluation of Recipient Safety

Recipient safety applies to allogeneic donors and assesses whether the donor has a medical condition, such as infectious, genetic, autoimmune, or malignant disease, which might be a risk to the intended recipient's health. Qualification of donors in regard to recipient safety is less stringent than qualification in regard to donor safety, due to the often life-threatening nature of the recipient's condition. Furthermore, the recipient's primary transplant provider, in contrast to donor safety considerations, is critically involved in recipient safety considerations.

Careful personal and family medical histories, physical exam, and routine lab tests are required to determine recipient safety (Table 3.3). Chest x-ray, electrocardiogram, and other tests like echocardiograms or abdominal ultrasounds may be indicated if there is a specific rationale for testing. Donors <60 years of age are preferable due to increased frequency with age of chronic, serious disease and the higher quality of HPCs from younger donors. Donors with psychiatric disorders must be assessed for their capacity to adhere to the donation process. Donors with any history of radiation or chemotherapy may transmit risk of future myelodysplasia. Recipient development of the same autoimmune disease of a donor is well reported. Thus, most centers would exclude donors with a history of hematologic or invasive solid malignancy, symptomatic congenital blood disease or immunodeficiency (versus a carrier state), Down syndrome, or systemic multi-organ autoimmune disorder. In regard to infectious disease, donors with HIV or any type of Creutzfeldt-Jakob disease (CJD) are typically excluded. All HPC donor-derived malignancies so far reported have been hematologic (Lown et al. 2014). Thus, related donors, especially with abnormal blood counts, should be carefully evaluated to rule out inherited predisposition to hematopoietic malignancy or potential for malignancy (Churpek et al. 2012; Xiao et al. 2011; Babushok et al. 2016).

In order to assist with qualification of donors with medical health issues, the World Marrow Donor Association established and maintains recommended acceptance criteria for many medical conditions affecting recipient safety at www.worldmarrow.org/donorsuitability (World Marrow Donor Association Clinical Working Group C 2016).

Although perhaps not typically regarded as a recipient safety issue, it is also important to perform ABO/Rh and red blood cell antibody screening on allogeneic donors, in order to determine and mitigate risk to the recipient of major and minor ABO incompatibility and alloimmune red cell hemolysis complications.

Table 3.3 Allogeneic donor screening for recipient safety

Procedure type	History and physical	Blood test
BM and PB hematopoietic progenitor cell collection	–Inherited disease –Malignant, hematologic, immunologic , or autoimmune disease –Radiation or chemotherapy –Psychiatric disorder –Drug or alcohol addiction –Donor eligibility determination (travel, high-risk behavior, blood transfusion, organ or xenotransplant, vaccinations, medications)	–CBC with diff, Chem 20, urinalysis, type and screen –Optional: SPEP, coagulation screen, ESR, blood smear review –Infectious disease testing (within 30 days before HPC or 7 days of MNC/donor lymphocyte)

CBC complete blood count, *SPEP* serum protein electrophoresis, *ESR* sedimentation rate, *HPC* hematopoietic progenitor cell, *MNC* mononuclear cell

3.7 Determining Donor Eligibility

Donor eligibility determination is a specific aspect of recipient safety, assessing the donor's potential to transmit a relevant infectious disease to the recipient. Determination is required by the FDA since May 2005, with the most current regulations specified in the Code of Federal Regulations (CFR) in Title 21, Part 1271, Subpart C (http://www.ecfr.gov). Detailed guidance on how to comply with donor eligibility requirements was released in August 2007 "Eligibility Determination for Donors of Human Cells, Tissues, and Cellular and Tissue-Based Products (HCT/Ps)." This guidance was recently supplemented with "Revised Recommendations for Determining Eligibility of Donors of Human Cells, Tissues, and Cellular and Tissue-Based Products Who Have Received Human-Derived Clotting Factor Concentrates" published November 2016 (www.fda.gov/BiologicsBloodVaccines/GuidanceComplianceRegulatoryInformation/Guidances/Tissue/).

Donor qualification in respect to eligibility determination has some flexibility; even if a donor is ineligible or the determination incomplete, the donor can still donate and the product distributed with documentation of urgent medical need by the clinical program. Urgent medical need is defined as a situation in which no comparable cellular therapy product is available and the recipient is likely to suffer death or serious morbidity without the cellular therapy product.

Donor eligibility determination is based on results of donor screening and donor testing. Screening determines that the donor has no risk factors or clinical evidence of infection with "relevant" communicable disease agents, with relevance typically being established by national competent authorities such as the FDA. Communicable disease agents currently considered relevant in the USA are listed in Table 3.4. Relevant communicable disease agents may have region-specific requirements based on disease endemicity. Donor testing is laboratory testing of donor blood for evidence of relevant infectious disease agents. In the USA, blood tests specifically licensed, cleared, or approved by the FDA must be used, and testing must be performed by a laboratory certified under the Clinical Laboratory Improvement Amendments (CLIA) of 1988 or meeting equivalent requirements as determined by the Centers for Medicare and Medicaid Services (also see Chap. 2).

For screening, the FDA requires review of "relevant medical records." Relevant medical records are defined as the following: (1) history questionnaire (current medical history and relevant social behavior interview), (2) current relevant physical exam, (3) laboratory test results (other than for eligibility determination), (4) available medical records, and (5) any other information pertaining to risk factors for relevant communicable disease, such as social behavior, clinical signs and symptoms of relevant communicable disease, and treatments related to medical conditions suggestive of risk for relevant communicable disease. For subsequent donations within 6 months of the comprehensive donor screening, an abbreviated screening focused on changes in donor medical history and relevant social history may be performed.

Identification of donor risk factors is critical. For example, travel history to areas endemic for malaria, West Nile virus, Zika, Chagas, and variant Creutzfeldt-Jakob disease must be identified. As another example, sexual intimacy with: people

Table 3.4 Relevant communicable diseases

Evaluation required by FDA regulation	HIV-1 and HIV-2	HQ[a], PE[a], blood test
	HTLV-I and HTLV-II	HQ, PE, blood test
	Hepatitis B	HQ, PE, blood test
	Hepatitis C	HQ, PE, blood test
	CMV[b]	blood test
	Human transmissible spongiform encephalopathy (e.g., any type of Creutzfeldt-Jakob disease)	HQ
	Treponema pallidum (syphilis)	HQ, blood test
Evaluation required by FDA guidance	West Nile virus	HQ, PE, blood test
	Zika virus	HQ, PE
	Sepsis (includes bacteremia)	HQ, PE
	Vaccinia virus (smallpox)	HQ, PE
Not FDA required but instituted by others (e.g., NMDP, FACT/JACIE)	*Trypanosoma cruzi* (Chagas disease)	HQ, blood test
	Malaria, tuberculosis	HQ
	Epstein-Barr virus, *Toxoplasma gondii*, varicella zoster virus, Herpes simplex virus	Blood tests

[a]*HQ* history questionnaire, *PE* physical exam
[b]Required by the FDA but not regarded as a relevant communicable disease; donor eligibility is determined by the transplanting facility

with hepatitis, male travelers to areas with active Zika virus transmission, or xenotransplantation recipients must be identified. FDA requirements regarding risk factors or conditions to be screened for are specific and detailed; thus, the use of a donor history questionnaire developed by a professional organization is strongly recommended. It is important to note that there are some differences between FDA requirements for blood donors and HPC donors. With this in mind, an interorganizational task force has developed a HPC-specific health history questionnaire that is regularly updated to reflect the latest FDA and accreditation requirements; it can be found at www.aabb.org/tm/questionnaires/Pages/dhqhpc.aspx or http://www.factwebsite.org/Inner.aspx?id=163.

Likewise, screening also includes physical exam, as certain symptoms and signs of infectious disease risk- for example, needle marks, tattoos, weight loss, night sweats, fever, cough, shortness of breath, jaundice, hepatomegaly, lymphadenopathy, mouth or skin lesions, and rash- may only be detected by clinical exam. Section IV, parts F and G of the FDA's August 2007 Donor Eligibility Guidance provides detailed information as to specific physical exam evidence that should be screened for to meet 21 CFR 1271.75 regulations.

Finally, donor eligibility determination requires laboratory testing of donor blood for relevant infectious diseases, since donors with relevant communicable

disease can often by asymptomatic. Such testing is typically governed by national competent authorities. The WMDA has released recommendations on minimum standards for infectious disease testing (Table 3.4 at www.worldmarrow.org/donorsuitability). The FDA allows specimens for communicable disease testing to be collected up to 30 days prior to or 7 days after HPC collection; if collected after HPC collection, issues of test accuracy related to plasma dilution due to transfusion or intravenous fluid infusion apply (Part 1271, Subpart C, 1271.80); it is thus recommended to avoid these complexities by drawing the sample prior to the collection procedure. The FDA lists current FDA-licensed donor screening tests at www.fda.gov/cber/products/testkits.htm.

An eligibility determination statement and a summary of the records used to make the determination must be provided by all distributors of allogeneic HCT/P products. If donor eligibility is incomplete or the donor is ineligible, the reason/s must be documented and incomplete or positive screening or testing clearly specified. The HCT/P product cannot be transferred or released without documentation of urgent medical need.

3.8 Other Aspects of Donor Qualification

It is worthwhile to note that national competent authorities may have country-specific regulations of, and parlance for, HPC products (Table 3.5). For example, currently, specific HPC product types are differentially regulated by the FDA (Table 3.6). The FDA regulates "minimally manipulated" peripheral blood HPCs that are autologous or family related (first or second degree relative) as "361 products" that are regulated under 21 CFR 1271 and Section 361 of the Public Health Services Act, whereas unrelated HPCs, whether minimally manipulated or not and even autologous or family-related HPCs that are more than minimally manipulated, are regulated as drug or biologic products under Section 351 of the PHS Act. All HPC collection facilities (unless solely under contract by an FDA-registered facility) and processing facilities must register with FDA, annually update their registration, and annually submit to FDA a list of each HCT/P manufactured.

Table 3.5 Glossary of key FDA definitions

Term	Definition
Human cells, tissues, and cellular and tissue-based products (HCT/P)	Articles containing or consisting of human cells or tissues that are intended for implantation, transplantation, infusion, or transfer into a human recipient. All peripheral blood HPC products, but not minimally manipulated bone marrow products, are considered HCT/P.
Manufacture	Any or all steps in the recovery, processing, storage, labeling, packaging, or distribution of any human cell or tissue, and the screening or testing of the cell or tissue donor.
Recovery	Collection of HCT/P.

Table 3.6 Regulations for minimally manipulated human cell tissue product

Donor	Marrow	Peripheral blood
Autologous	No federal regulation	Section 361 of the PHS Act 21 CFR 1271, except Subpart C, donor eligibility (recommended but not required)
Related allogeneic	No federal regulation	Section 361 of the PHS Act 21 CFR 1271
Unrelated allogeneic	Division of Transplantation within the Health Resources and Service Administration	Regulated as drug, device, and/or biological product under Section 351 of the PHS Act 21 CFR Subchapters C and H 21 CFR 1271 Subparts C and D

3.9 Expert Point of View

Proper and complete donor qualification assessment is constantly changing, due to continually emerging new transmissible disease risks and continual new data on noninfectious donor conditions that may affect donor safety or recipient safety. Interested parties are encouraged to keep updated on latest developments as provided by the WMDA, accreditation bodies such as FACT/JACIE and AABB, and their national competent authorities. For example, the FDA has a free e-mail alert service for receipt of important FDA news and documents, such as guidances, as they become available (sign up at www.fda.gov/AboutFDA/ContactFDA/StayInformed/GetEmailUpdates). The WMDA welcomes requests for review of individual medical conditions from all those with responsibility for HPC donors, related or unrelated (contact info can be found at www.worldmarrow.org/donorsuitability). FACT/JACIE and AABB also encourage feedback or clarification on existing accreditation standards as well as suggestions for new standards. The Cellular Therapy Committee at AABB also has a subcommittee specifically devoted to (US) regulatory affairs which can be joined at www.aabb.org/membership/governance/committees/Pages/ctsubsections.aspx#ra.

3.10 Future Directions

This chapter has introduced multiple resources available to assist with donor suitability assessment. Donor eligibility assessment by medical history and relevant social behavior interview has been significantly simplified by the development and maintenance of an HPC-specific health history questionnaire and associated materials (www.aabb.org/tm/questionnaires/Pages/dhqhpc.aspx) by a task force comprised of representatives from AABB, the American Association of Tissue Banks, the American Society for Blood and Marrow Transplantation, the American Society for Apheresis, FACT, JACIE, the International Society for Cellular Therapy, and NMDP; an FDA liaison; and an ethicist.

Future directions might be for consensus task forces to develop similar specific questionnaire materials for donor safety and recipient safety assessment that are also regularly updated with the latest safety data. Although guidance is available, particularly from the WMDA, specific questionnaire-driven algorithms have yet to be developed. Donor safety questionnaire/s should incorporate apheresis-specific versus BM-specific issues. The recipient safety questionnaire should cover donor genetic, autoimmune, and malignant conditions, as well as relevant infectious disease conditions outside of donor eligibility requirements.

Furthermore, databases could be developed to correlate donor medical conditions affecting donor and recipient safety with donor and recipient adverse events and long-term outcomes. Although such databases are already developed by organizations involved in unrelated donor recruitment such as the NMDP, these donors are typically healthy. A similar adverse event identification and long-term follow-up of related donors on an epidemiologic rather than case report level is needed. A consensus statement on a minimum data set for prospective donor follow-up has been published by the Worldwide Network for Blood and Marrow Transplantation (Halter et al. 2013).

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