

Guidance regarding gamete and embryo donation

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This document provides the latest recommendations for the evaluation of potential sperm, oocyte, and embryo donors as well as their recipients, incorporating recent information about optimal screening and testing for sexually transmitted infections, genetic diseases, and psychological assessments. This revised document incorporates recent information from the US Centers for Disease Control and Prevention, US Food and Drug Administration, and American Association of Tissue Banks, which all programs offering gamete and embryo donation services must be thoroughly familiar with, and replaces the document titled “Recommendations for gamete and embryo donation: a committee opinion,” last published in 2013. (Fertil Steril® 2021;115:1395–410. ©2021 by American Society for Reproductive Medicine.)

El resumen está disponible en Español al final del artículo.

Key Words: Sperm, oocyte, donor insemination, donor screening, quarantine

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TABLE OF CONTENTS

- I. Introduction
- II. Donors indications, screening, and selection
 - a. Sperm Donation
 - i. Indications for donor sperm insemination
 - ii. Donor sperm screening
 - iii. Donor sperm selection
 - iv. Directed (nonanonymous/known) donation
 - v. Quarantine of semen
 - vi. Use of fresh semen
 - b. Oocyte Donation
 - i. Indications for use of donor oocytes
 - ii. Oocyte donor screening
 - iii. Oocyte donor selection
 - iv. Directed (nonanonymous/known) oocyte donation
 - v. Quarantine of oocytes
 - vi. Requirements of clinics providing oocyte donation services
 - c. Embryo Donation
 - i. Guidance for ART practices that offer embryo donation
 - ii. Donor embryo screening
 - iii. Donor embryo eligibility
 - iv. Situations in which the gamete source was a donor, not an intimate partner
- III. Management of sperm/oocyte donors
- IV. Recipients and their partners—screening and testing
 - a. ASRM-recommended evaluation of recipients
 - b. ASRM-recommended recipient partner screening
- V. Psychoeducational counseling—donors and recipients
 - a. ASRM-Recommended Psychoeducational Counseling—Donors
 - b. Psychoeducational Consultation: Gamete Donation Recipients (Oocytes, Sperm, and Embryos)
 - c. Psychoeducational Consultation: Gamete (Sperm and Oocyte) Donation with a Directed Donor
 - d. Psychoeducational Consultation: Embryo Donation with a Directed Donor
- VI. Genetic screening and counseling—donors and recipients
 - a. Genetic Carrier Screening for Heritable Diseases
 - i. Recommended non-identified (anonymous) donor carrier screening
 - ii. Donor counseling
 - iii. Donor eligibility
 - iv. Recipient counseling
 - b. Family History Screening for Non-Identified (Anonymous) Donors
 - i. Recommended donor family history screening
 - ii. Donor counseling
 - iii. Non-identified (anonymous) donor eligibility
 - 1. *Monogenic conditions*
 - 2. *Congenital anomalies*
 - 3. *Multifactorial conditions*
 - 4. *Chromosomal conditions*
 - iv. Recipient counseling
- VII. Legal considerations—donor and recipients
- VIII. FDA donor eligibility—questionnaire, physical exam, laboratory testing

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- a. FDA Donor Eligibility Medical Questionnaire
- b. FDA Donor Eligibility Laboratory Testing
 - i. Managing laboratory results
- c. FDA Donor Eligibility Physical Exam

IX. References

I. INTRODUCTION

The use of sperm, oocyte, and embryo donation services has increased over the past several decades (1–3). The availability of donor gametes provides individuals and couples who otherwise may not be able to conceive with an opportunity to build a family. To optimize safety and outcomes, the US Food and Drug Administration (FDA), American Association of Tissue Banks, US Centers for Disease Control and Prevention (CDC), and American Society for Reproductive Medicine (ASRM) have developed their own guidance for the screening of donor tissue and recipients.

This document aims to summarize the current guidance for donor eligibility determination that has been mandated by FDA before the use of donor oocytes, sperm, or embryos. Donors are defined as individuals who are not sexually intimate partners of the recipients; donor eligibility determination is required for donor sperm, donor oocytes, donor embryos, and sperm and oocyte sources when planning to use a gestational carrier. This guidance also reviews the screening of donors and recipients that has been recommended by CDC and ASRM. Although FDA donor eligibility determination focuses on infectious risk, the ASRM guidance also incorporates prenatal optimization, psychoeducational counseling of donors and recipients, and genetic risk assessment.

This guidance for the screening and testing of gamete and embryo donors applies to all potential donors in the United States. Because the prevalence of sexually transmitted infections (STIs) may vary in other locales, this guidance may not be appropriate for other countries or individuals who come to the United States from other countries. If a donor is deemed “ineligible” based on the FDA guidance detailed herein, the tissue cannot be used for a non-identified (anonymous) donation. However, for a directed or known donation, the “ineligible” tissue may be used if both parties are aware of the theoretical infectious or genetic risk and consent to move forward with the donation.

Throughout this document, “anonymous” donors have been referred to as “non-identified.” The transition in language from “anonymous” to “non-identified” reflects the realization that anonymity is decreasing with the prevalence of and access to nonmedical genetic testing.

Oocyte donation, and thereby this document, does not apply to lesbian couples who undergo reciprocal in vitro fertilization (IVF), in which one partner provides the oocyte(s) and the other partner carries the pregnancy. In this setting, the partner does not donate her oocytes. The oocytes should be considered shared between sexually intimate partners because sperm is shared between heterosexual couples, presumed to be sexually intimate.

Although FDA does not require screening or testing of the recipients of donated gametes, ASRM recommends the evaluation of recipients as described. Other areas where the ASRM recommendations may be more stringent than the FDA minimum requirements are noted herein. Additionally, state requirements may be more restrictive than those of FDA, and clinics are encouraged to check with government officials in the state where their practice is located to determine minimum screening and testing requirements for their state.

The promulgation of FDA regulations has caused considerable oversight of gamete and embryo donation, including mandatory registration of all assisted reproductive technology (ART) programs with the federal government, federal inspections of programs that perform donation, required documentation, and written protocols related to donor screening, testing, selection, rejection, and follow-up. Complete records of all donor cycles, including the documentation of adherence to FDA regulations, must be made available to FDA inspectors at their request. Federal regulations and frequently asked questions and answers may be viewed at the following websites:

- <https://www.fda.gov/regulatory-information/search-fda-guidance-documents/eligibility-determination-donors-human-cells-tissues-and-cellular-and-tissue-based-products>
- <https://www.fda.gov/vaccines-blood-biologics/tissue-tissue-products/donor-eligibility-final-rule-and-guidance-questions-and-answers>

II. DONORS—INDICATIONS, SCREENING, AND SELECTION

a. Sperm Donation

Donated sperm for use for donor insemination (DI) or IVF may be performed with directed (known) or non-identified (anonymous) donors depending on clinical circumstances. Donor sperm use has increased over the past 20 years (3).

i. Indications for donor sperm insemination. Indications for donor sperm insemination may include but not limited to the following:

- The male partner has azoospermia, severe oligozoospermia, or other significant sperm or seminal fluid abnormalities.
- The male partner has ejaculatory dysfunction.
- Prior failure to fertilize during IVF after insemination with intracytoplasmic sperm injection.
- The male partner has a significant genetic defect or the couple has previously produced an offspring affected by a condition for which carrier status cannot be determined or the couple has a strong family history of a heritable disease.
- The female partner is Rh-negative and severely Rh-immunized and the male partner is Rh-positive.
- A female without a male partner or with a transmale partner.

ii. Donor sperm screening. There is no method to completely ensure that infectious agents will not be transmitted by DI. However, the following guidance [Table 1 (4–8)], combined

TABLE 1

Donor sperm FDA requirements and ASRM recommendations (4–8).

Non-identified (anonymous) sperm donor	<p>FDA requirement</p> <ul style="list-style-type: none"> ✓ Donor physical exam ✓ Donor questionnaire ✓ Medical history ✓ Donor infectious laboratory tests at FDA-approved laboratory (including CMV and HTLV types I and II IgM and IgG on sperm source) within 7 days (before or after) of sperm acquisition ✓ 6-month quarantine with repeat infectious disease testing ✓ Must be ELIGIBLE to use tissue <p>ASRM recommendation (in addition to the FDA requirements)</p> <ul style="list-style-type: none"> ✓ Psychoeducational screening ✓ Genetic screening ✓ Infectious disease testing of recipient and recipient's sexually intimate partner(s)
Directed (known) sperm donor	<p>FDA requirement</p> <ul style="list-style-type: none"> ✓ Donor physical examination ✓ Donor questionnaire ✓ Donor infectious laboratory tests at FDA-approved laboratory (including CMV and HTLV types I and II IgM and IgG on sperm source) within 7 days of sperm acquisition ✓ Ineligible tissue can be used but with appropriate labeling and consent <p>ASRM recommendation (in addition to FDA requirements)</p> <ul style="list-style-type: none"> ✓ Psychological screening ✓ Genetic screening ✓ Infectious disease testing of recipient and recipient's sexually intimate partners ✓ Medical history ✓ Quarantine >35 days followed by repeat infectious disease testing ✓ Legal consultation; laws may vary by state

Note: ASRM = American Society for Reproductive Medicine; CMV = cytomegalovirus; FDA = U.S. Food and Drug Administration; HTLV = human T-cell lymphotropic virus; IgG = immunoglobulin G; IgM = immunoglobulin M.

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with adequate information about the donor's history and specific exclusion of individuals at a high risk of human immunodeficiency virus (HIV) and other STIs, should significantly reduce these risks.

- Medical history—See “Donor Eligibility Medical Questionnaire” list (4, 5).
- Physical examination—See “FDA Donor Eligibility Physical Exam” (6).
- Laboratory testing—See “FDA Donor Eligibility Laboratory Testing” within 7 days of semen production (4).

iii. Donor sperm selection.

- The main qualities to seek while selecting a donor for DI are assurance of good health and normal semen analysis results. There are no uniformly accepted standards, but, in general, the minimum criteria for normal semen quality can be applied (9).
 - Genetic evaluation: The donor should undergo appropriate genetic evaluation, as reviewed in the genetic counseling section herein (see “Genetic Screening and Counseling”).
- The donor should be of legal adult age in their state, ideally ≥ 21 years, and should ideally be young enough so that the risks to the offspring associated with an increased paternal age, such as autism, are minimized. Donors <21 years of age should undergo psychological evaluation by a qualified mental health professional, and the decision to proceed with a donor <21 years of age should be made on an individual basis with help from a qualified mental health professional.

- Psychological evaluation and counseling by a qualified mental health professional is strongly recommended for all sperm donors (see “Psychoeducational Counseling—Donors and Recipients”).
- Donors should be healthy and give no history to suggest hereditary disease. Proven fertility in the donor is desirable but not required.
- No owner, operator, laboratory director, trainee, or employee of a facility providing donor sperm or performing DI may serve as a donor in that practice.

iv. Directed (nonanonymous/known) donation. Directed (nonanonymous or known) donation is acceptable if all parties agree. Directed donors must undergo the same infectious disease screening and testing as non-identified donors. Directed donors who test positive or demonstrate a risk of hereditary disease are deemed “ineligible” for non-identified (anonymous) donation. However, they are not prohibited from being used in directed donation according to current FDA rules, provided that both parties are aware of the donation's theoretical infectious or genetic risk and have provided their consent to move forward with the donation. Although FDA does not inform the recipients of the test results other than their eligibility status, in the opinion of ASRM, the recipients must be informed and appropriately counseled with the donor's consent before using the samples.

v. Quarantine of semen. While 6-month quarantine is required by the FDA for non-identified (anonymous) semen donation, directed donor specimens are exempted from quarantine under the current FDA guidance, which only requires testing within 7 days of donation. However, in the opinion

of ASRM, quarantine of directed donor specimens for 35 days, followed by retesting for infectious diseases, is recommended. Current evidence suggests that the chance of having undetected HIV or hepatitis B 35 days after an initial negative quantitative test result is extremely low; the risk of undetected infection was $<1/1 \times 10^6$ for HIV after 14 days, for hepatitis B after 35 days, and for hepatitis C after 7 days from the time of potential exposure until the day of a negative nucleic acid amplification test (10).

v. Use of fresh semen. In the opinion of ASRM, the use of fresh semen can be justified only for sexually intimate partners. It is possible for HIV and other infectious organisms to be transmitted via fresh donor semen before the donor becomes seropositive. Consequently, the potential for transmission of infections by fresh semen cannot be eliminated.

b. Oocyte Donation

Oocyte donation may be undertaken with directed (known) or non-identified (anonymous) donors. Oocyte donation requires that the donor undergo ovarian stimulation with monitoring and oocyte retrieval, involving significant inconvenience, discomfort, and risks for the donor. Women may choose to donate oocytes more than once, increasing the potential risk to the health of the donor [see the ASRM Practice Committee document titled “Repetitive oocyte donation: a committee opinion” for further information on this topic (11)]. Women donating oocytes for reproductive purposes should be compensated based on ethical grounds [see ASRM Ethics Committee document titled “Financial compensation of oocyte donors: an ethics committee opinion” for further discussion (12)].

i. Indications for use of donor oocytes. Indications may include but not limited to the following:

- Women with hypergonadotropic hypogonadism
- Women of advanced reproductive age
- Women who have diminished ovarian reserve
- Women who are known to be affected by or known to be the carrier of a significant genetic defect or who have a

family history of a condition for which carrier status cannot be determined

- Women with poor oocyte and/or embryo quality or multiple previous failed attempts to conceive via ART
- Men who do not have a female partner or those who have a transfemale partner and are planning to use a gestational carrier

ii. Oocyte donor screening. There is no method to completely ensure that infectious agents are not be transmitted via donor oocytes. However, the following guidance [Table 2 (4, 5)], combined with adequate information about the donor’s history and specific exclusion of individuals at a high risk of HIV and other STIs, should significantly reduce these risks.

- Medical history—See “FDA Donor Eligibility Medical Questionnaire” list (4, 5).
- Physical examination—See “FDA Donor Eligibility Physical Exam” (6).
- Laboratory testing—See “FDA Donor Eligibility Laboratory Testing” within 30 days before or up to 7 days after acquisition (4).

iii. Oocyte donor selection.

- Oocyte donors should be of legal age in their state and preferably between the ages of 21 and 34 years. Donors <21 years of age should undergo psychological evaluation by a qualified mental health professional, and the decision to proceed with such a donor should be determined on an individual basis. If a prospective donor is >34 years of age, the age of the donor should be revealed to the recipient as part of the informed consent discussion concerning cytogenetic risks and the effect of donor age on pregnancy rates.
- Donors should be healthy and give no history to suggest hereditary disease. Proven fertility in the donor is desirable but not required. Pelvic ultrasound for the assessment of pelvic anatomy, including the ovaries, is recommended for antral follicle count. Additional measurement of serum biomarkers of the ovarian reserve is warranted to anticipate the response to oocyte stimulation.

TABLE 2

Donor oocyte FDA requirements and ASRM recommendations (4, 5).

Oocyte donor	<p>FDA requirement</p> <ul style="list-style-type: none"> ✓ Donor physical examination^a ✓ Donor questionnaire^{b,c} ✓ Donor infectious laboratory tests at an FDA-approved laboratory 30 days before, or up to 7 days after^d oocyte acquisition ✓ Non-identified (anonymous): must be ELIGIBLE to use tissue ✓ Directed (known): ineligible tissue may be used but with appropriate labeling and consent <p>ASRM recommendation (in addition to FDA requirements)</p> <ul style="list-style-type: none"> ✓ Psychoeducational counseling ✓ Genetic screening ✓ Medical history ✓ Infectious disease testing of recipient and recipient’s sexually intimate partners ✓ Legal consultation, particularly for directed donation
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Note: ASRM = American Society for Reproductive Medicine; FDA = U.S. Food and Drug Administration.

^a <https://www.fda.gov/media/73072/download>.

^b <https://www.fda.gov/media/73072/download>.

^c <https://www.fda.gov/media/96528/download>.

^d May not be resulted in time for fresh donation.

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- Psychoeducational evaluation and counseling by a qualified mental health professional is strongly recommended for all donors (see “Psychoeducational Counseling—Donors and Recipients”).
- The donor should undergo appropriate genetic evaluation, as reviewed in the genetic counseling section (see “Genetic Screening and Counseling”).

iv. Directed (nonanonymous/known) oocyte donation. Directed oocyte donors must undergo the same screening and testing as non-identified (anonymous) donors. Directed donors who test positive or demonstrate a risk of a relevant communicable disease are deemed “ineligible” for non-identified (anonymous) donation but are not prohibited from participating in directed donation according to current FDA rules, provided that both parties are aware of the donation’s theoretical infectious or genetic risk and have provided their consent to go ahead with the donation. Although the FDA does not inform the recipients of the test results other than their eligibility status, in the opinion of ASRM, the recipients must be informed and appropriately counseled with the donor’s consent before using the samples.

v. Quarantine of oocytes. Quarantine of oocytes is not required by FDA for non-identified (anonymous) or directed donation.

vi. Requirements of clinics providing oocyte donation services.

- If sharing of oocytes from an ART cycle is contemplated, informed consent must be obtained before the start of the cycle of retrieval. The conditions governing the sharing of oocytes should be specified in advance, be included in the informed consent, and comply with the existing ASRM Ethics Committee’s opinion documents (13).
- No owner, operator, laboratory director, trainee, or employee of a facility screening for or performing oocyte donation may serve as a donor in that practice.
- If an agency is used to recruit oocyte donors, no individual who has a financial interest in that agency may be used as an oocyte donor.

- Assurance that the oocyte donor has medical insurance or that the practice has a policy to cover donation-related medical expenses or complications.

c. Embryo Donation

In the current clinical practice of ART, more embryos than can be safely transferred at a time are often generated and may be cryopreserved for transfer later. Couples who become pregnant and do not desire another pregnancy or have other reasons for choosing not to use their embryos have the option of discarding these embryos or donating them to other individuals or for research (1). The purpose of this document is to present guidance for embryo donation. It should be noted that this guidance represents minimum standards for the screening, testing, and counseling of potential embryo donors and recipients. The US federal government has published the minimum requirements for embryo donation (14). Some states and other localities may have laws or regulations that pertain to embryo donation that may supersede this guidance.

i. Guidance for ART practices that offer embryo donation.

- The practice should be knowledgeable in the storage, thawing, and transfer of frozen embryos.
- The practice may charge potential recipients a professional fee for embryo thawing, embryo transfer procedure, cycle coordination and documentation, and infectious disease screening and testing of both recipients and donors. However, the selling of embryos per se is ethically unacceptable.
- Physicians and employees of an infertility practice should be excluded from participating in embryo donation as either donors or recipients within that practice.

ii. Donor embryo screening. The donor screening requirements recommended by FDA and additional recommendations by ASRM are summarized in Table 3.

iii. Donor embryo eligibility. Embryos derived from the gametes of a sexually intimate couple and created for use by that couple are exempted from the requirements for donor

TABLE 3

Donor embryo FDA requirements and ASRM recommendations (4, 5).

Directed (known) and non-identified (anonymous)	<p>FDA requirement</p> <ul style="list-style-type: none"> ✓ Attempt, if feasible, to perform infectious disease testing on both the oocyte and sperm source (including CMV and HTLV types I and II IgM and IgG on sperm source) ✓ Ineligible embryos may be used if tissue is appropriately labeled and recipients are consented <p>ASRM recommendation (In addition to FDA requirements)</p> <ul style="list-style-type: none"> ✓ Psychological counseling of donor and recipients ✓ Medical history ✓ Genetic history ✓ Infectious disease testing of recipient and recipient’s sexually intimate partners ✓ Legal consultation
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Note: ASRM = American Society for Reproductive Medicine; CMV = cytomegalovirus; FDA = U.S. Food and Drug Administration; HTLV = human T-cell lymphotropic virus; IgG = immunoglobulin G; IgM = immunoglobulin M.

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screening and testing before the creation of the embryos.

The following guidance applies to sexually intimate couples who decide to donate unused embryos that are a product of their own biological gametes:

- a. Embryo donors should provide details of their medical and genetic history (see “Genetic Screening and Counseling”).
- b. Gamete donors used to create embryos should be screened for relevant risk factors for HIV, other transmissible infections, and transmissible spongiform encephalopathy (15).
- c. There is no method to completely ensure that infectious agents will not be transmitted, but the following guidance, combined with adequate information about the donor’s medical history and specific exclusion of individuals at a high risk of HIV and other transmissible infections, should dramatically reduce these risks. The practice should determine if the cost of such tests will be borne by the donor couple, the practice mediating the embryo donation, or the potential recipients (see “FDA Donor Eligibility Laboratory Testing”).
- d. Often, the screening and testing of the biological source of the gametes used to create the embryos in sexually intimate partners is not performed, and the decision to donate embryos occurs subsequent to their creation. If the decision to donate is made >180 days after cryopreservation of the embryos, the donors may be screened and tested. In this instance, the documentation that accompanies the embryos must include the following label: “Advise recipient that screening and testing of the donors were not performed at the time of cryopreservation of the reproductive cells or tissue but have been performed subsequently.”
- e. If the donors are not available or refuse to undergo the required screening and testing, the FDA guidance does not preclude the use of their embryos, provided that the documentation that accompanies the embryos includes the following labels: “NOT EVALUATED FOR INFECTIOUS SUBSTANCES” and “WARNING: Advise recipient of communicable disease risks.” However, ASRM recommends careful counseling regarding the risks of transfer of these embryos.
- f. Embryos that are shipped to another facility must be accompanied by a summary of their records and must be appropriately labeled, in accordance with FDA guidance. The receiving facility should not accept embryos that are not accompanied by a summary of their records or those that are not appropriately labeled (4).
- g. Embryo donors must sign an informed consent document indicating their permission to use their embryos for embryo donation. Issues to be addressed in the consent form include the following:
 1. Relinquishing all rights of the donor(s) to the embryo(s) and any child or children that may result from the transfer of such embryo(s).
 2. Recognition of inadvertent loss or damage to the embryo(s).
 3. The right to practice refusal of transfer to an inappropriate recipient.
 4. The time period for which donated embryos will be maintained in cryostorage and alternatives for their disposition thereafter.

5. Jurisdiction and process for medical/legal procedures and/or dispute resolution.
 6. Possibility that the embryos will not be selected by potential recipients and that practices can then choose an alternative disposition, such as discarding the embryos.
- h. Proper chain-of-custody procedures must be followed and documented for the handling of all test specimens and donated embryos.
 - i. Donors should receive no compensation for the embryos.
 - j. The decision to proceed with embryo donation is complex, and patients may benefit from psychological counseling (see “Psychoeducational Counseling—Donors and Recipients”).

iv. Situations in which the gamete source is a donor not an intimate partner. The eligibility of donors is determined by the gametes (donor oocyte or donor sperm) and not by the embryos that are donated. For embryos derived from gametes obtained from (a) non-identified (anonymous) donor(s), the donor(s) should have met all the FDA screening and testing requirements and should have been deemed eligible for non-identified (anonymous) donation, as previously described, for non-identified (anonymous) sperm and/or oocyte donation. The donor should also have consented to potential future embryo donation.

III. MANAGEMENT OF SPERM/OOCYTE DONORS

- **Monitoring health status:** The single most important method for reducing the risk of transmitting infectious agents is to carefully screen and test potential donors and develop an ongoing procedure for monitoring their health status.
- **Payment to donors:** Payment to donors varies from area to area but should not be such that monetary incentive is the primary motivation for gamete donation. However, the donor may be compensated for time and expenses. Please see the ethics committee’s opinion document titled “Interests, rights, and obligations in gamete donation: an ethics committee opinion” (16).
- **Limitations to donor use:** Institutions, clinics, and sperm banks should maintain sufficient records to allow a limit to be set for the number of pregnancies for which a given donor is responsible. It is difficult to provide a precise number of times that a given donor can be used because one must take into consideration the population base from which the donor is selected and the geographic area that may be served by a given donor. It has been suggested that in a population of 800,000, limiting a single donor to no more than 25 births would avoid any significant increased risk of inadvertent consanguineous conception (11). This suggestion may require modification if the population using DI represents an isolated subgroup or if the specimens are distributed over a wide geographic area (16). Oocyte donors should be limited to 6 cycles per donor. The basis for this recommendation is rooted in a concern over a cumulative risk of the donor after undergoing >6

ovarian stimulation and oocyte retrieval procedures (11). When splitting donor embryo batches, the potential risk of siblings in a close geographic proximity should be considered. Additionally, donors should be informed about future potential request for follow-up testing or receipt of follow-up medical information that stems from a medical diagnosis in a donor-conceived child.

- **Consent:** It is essential for a donor to sign a consent form, which should include firm denial of having any recognized risk factors for STIs and genetic diseases. It has been recommended that the donor acknowledge in the consent form his/her responsibility to notify the donor program of any changes in health or risk factor status related to new diagnoses in the donor or his/her family members. The consent form should also consider addressing the donor's consent or dissent with the use of resultant embryos for embryo donation.
- **Counseling about the process:** Donors should be counseled about the number and type of infectious disease tests that will be performed and should be informed about how that information will be used and shared with others.
 - Oocyte donors should be informed about all relevant aspects of the medical treatment, including medications, monitoring, and oocyte retrieval, and should be informed about potential risks, including ovarian hyperstimulation and cycle cancellation, and the risks of oocyte retrieval.
 - Oocyte donors should be counseled about the possibility of an unintended pregnancy and offered options for prevention.
- **Record-keeping:** The Food and Drug Administration requires that records pertaining to each donor (screening and test results) be maintained for at least 10 years; some states may be required to maintain record for longer. However, in the opinion of ASRM, a permanent record of each donor's screening and test results should be maintained. As far as possible, clinical outcome should be recorded for each donation cycle. A mechanism to maintain such records should exist as a future medical resource for any offspring produced.
- **Protection of confidentiality:** Medical records detailing the donation should be maintained as stipulated by federal and local requirements.

IV. RECIPIENTS AND THEIR PARTNERS—SCREENING AND TESTING

a. ASRM-Recommended Evaluation of Recipients

i. A routine assessment of health and reproductive history. should be performed according to the general preconception screening standards that are applied to individuals anticipating pregnancy. The goal of prepregnancy care is to reduce the risk of adverse health effects for the woman, fetus, and neonate by working with the woman to optimize health, address modifiable risk factors, and provide education (17). This should include (but is not limited to) review of medical, surgical, and psychiatric histories; review of

current medications; evaluation of the risk of family and genetic histories; substance use assessment; evaluation of exposure to violence; assessment of immunization status, nutritional status, weight, physical activity, and possible teratogenic exposures.

ii. A complete general physical examination. should be performed, including pelvic evaluation. For embryo or oocyte recipients, formal assessment of the uterine cavity using saline infusion ultrasonography or another suitable procedure is recommended before treatment to assess for any significant uterine abnormality.

iii. Donor gamete or embryo recipient laboratory testing. Although there are no federal requirements for testing gamete or embryo recipients, the following tests are recommended to optimize perinatal care:

- a. Blood type, Rh factor, and antibody screen: Consideration should be given to blood type and Rh factor, particularly for Rh-negative recipients. If the use of donor gametes or embryo(s) creates a potential for Rh incompatibility, recipients should be informed of the obstetric implications of the condition.
- b. Assessment of vaccination status as per current guidance: Immunity against rubella and varicella should be documented before pregnancy. If nonimmune, the vaccine should be administered and pregnancy should be avoided for 4 weeks. Influenza and tetanus-diphtheria vaccination should be completed before pregnancy but can be administered during pregnancy (18).
- c. Infectious disease testing: Serologic test for syphilis, hepatitis B surface antigen, hepatitis C antibody, *Neisseria gonorrhoeae*, *Chlamydia trachomatis*, HIV, and cytomegalovirus (CMV) immunoglobulin G (IgG) antibody for women using donor sperm.
 - i. Tests for human T-cell lymphotropic virus (HTLV) types I and II may also be performed at the discretion of a clinician in an appropriate clinical setting.
 - ii. Positive test results for infectious disease warrant treatment and, if appropriate, referral to an infectious disease specialist. Positive test results should not preclude treatment assuming that informed decision-making and a comprehensive treatment plan are in place before pregnancy is attempted.
- d. Abnormalities detected based on history, physical examination, or laboratory evaluation may require more detailed evaluation and treatment. Additional guidance is available from ASRM regarding the provision of fertility treatment services to women at a high risk of pregnancy complications (19, 20).

b. ASRM-Recommended Recipient Partner Screening

Sexually intimate partners of individuals planning to receive oocyte, sperm, or embryos should be screened for infectious diseases. While not recommended by FDA, ASRM recommends that the partner be tested for infectious disease to

address any potential medical or legal issues that could arise should the partner seroconvert during or after treatment. Such screening of the partner is optional, particularly if the risk of infectious disease transmission is low, such as in the case of same-sex female partners planning donor sperm insemination.

Testing for STIs, similar to that recommended for the recipient partner, is encouraged. This includes serologic tests for HIV, syphilis, hepatitis B surface antigen, and hepatitis C antibody and nucleic acid amplification test for *Neisseria gonorrhoeae* and *Chlamydia trachomatis*. It is worth noting that there are no FDA-licensed, approved, or cleared tests for the screening of these organisms in an asymptomatic, low-prevalence population. Human T-cell lymphotropic virus types I and II and CMV immunoglobulin M (IgM) and IgG may also be obtained at the discretion of a clinician in an appropriate clinical setting.

V. PSYCHOEDUCATIONAL COUNSELING—DONORS AND RECIPIENTS

a. ASRM-Recommended Psychoeducational Counseling— Donors

A clinical evaluation by a qualified licensed mental health professional who has received training and education in third-party reproduction is strongly recommended for all donors considering gamete donation. The decision to proceed with gamete donation is complex, and the following recommendations are intended to provide general guidelines for addressing several moral, ethical, emotional, and social issues related to gamete donors, recipients, and donor-conceived persons:

- i. The evaluation includes a clinical interview and standardized, empirically validated test that is designed for the assessment and/or screening of mental and behavioral disorders and should adhere to the established standards of professional and ethical practice.
 - ii. Mental health history should include the following:
 - Family history
 - Educational background
 - Work history
 - Financial stability
 - Motivation to donate
 - Current life stressors and coping skills
 - Difficult or traumatic reproductive history
 - Interpersonal relationships
 - Sexual history
 - Personal history of mental health issues, diagnoses, and substance use disorder and treatment
 - Family history of psychiatric and personality disorders and substance use disorders
 - Current or previous use of psychoactive medication
 - Legal history
 - History of abuse or neglect
 - iii. The evaluation should also assess for the donor's understanding of the following:
 - Potential emotional and social risks
 - Evidence of coercion (financial or emotional)
 - Information that will be disclosed to the donor or shared with others
 - Risk of losing anonymity
 - Social media and future implications for identification
 - Understanding of the likelihood and implications of contact through direct-to-consumer deoxyribonucleic acid (DNA) websites and implications for the donors, their children, current or future partners, and their extended families
 - Implications of the types of families and potential for multiple families receiving their gametes
 - Aspects of gamete and embryo management and disposition
 - Management of donor's information and how it will be disclosed, stored, and secured as well as future contact by the gamete program
- iv. For donors who undergo additional cycles, a new full evaluation is strongly recommended if >24 months have elapsed since the previous evaluation.
 - v. Relative exclusion criteria for a gamete donor are as follows:
 - Presence of significant psychopathology
 - Positive family history of psychiatric disorders
 - Current use of psychoactive medication
 - Substance use disorders
 - Two or more first-degree relatives with substance use disorders
 - History of emotional, sexual, or physical abuse without professional treatment
 - Excessive stress
 - Relationship instability
 - Inadequate cognitive functioning to support informed consent
 - High-risk sexual practices
 - Risks/concerns for the donor for future contact with donor-conceived offspring
 - vi. For directed donors and recipients, partners should be included in the clinical interview. The goal is to provide information and education about family-building, including discussion regarding the potential impact of donation on their relationships, contact with the donor, role expectations, and the children's interests between and among each other.
 - vii. Candidates who are ineligible for donation should be offered a referral for any psychological or safety concerns.

b. Psychoeducational Consultation: Gamete Donation Recipients (Oocytes, Sperm, and Embryos)

The decision to proceed with oocyte, sperm, or embryo donation is complex, and intended parents benefit from counseling to aid with the decision. For these reasons, a psychoeducational consultation with a qualified licensed mental health professional who has training and education in third-party reproduction is strongly recommended.

A psychoeducational consultation addresses the implications of creating a family using gamete donation. Recipient(s) should be counseled about the potential emotional, moral, ethical, and social implications concerning building a family

using gamete donation. Different circumstances may require counseling that focuses on one or more of the following issues:

- i. Disclosure
- ii. Implications of long-term impact on the family
- iii. Needs of donor-conceived persons
- iv. Grief and loss
- v. Limitations of donor screening
- vi. Desired qualities of the donor and its implications
- vii. Pregnancy, transition to parenthood, and parenting at an older age (if applicable)
- viii. Challenges of anonymity because of direct-to-consumer DNA testing, technological advances, social media, and implications for donor-conceived families
- ix. Future implications for the children of having persons who are linked through the same donor.
- x. Future implications of receiving new medical information about the donor or another donor-conceived sibling
- xi. Impact of treatment failure, coping with treatment termination, and developing alternative plans for the future

Because the goal of this is psychoeducational, should information arise that indicates that there are concerns for the health, mental health, welfare, or safety of the recipient(s) or resulting children, a referral to an independent qualified professional should be made for an evaluation.

c. Psychoeducational Consultation: Gamete (Sperm and Oocyte) Donation with a Directed Donor

In addition to the previous topics, a directed donation consultation should include the following:

- i. In cases involving directed donors, separate consultation sessions for the donor(s) and recipient(s) as well as a joint session with the donor, donor's partner, and recipient(s) are strongly recommended
- ii. Expectations for communication and relationship roles between and among the donor, recipient, donor-conceived persons, partners, and other family members
- iii. A donor may not be recommended for donation
- iv. Exploration of donor and recipient preferences about the disposition of any remaining gametes or embryos

d. Psychoeducational Consultation: Embryo Donation with a Directed Donor

Embryo donation requires special considerations for recipients and donors, and a psychoeducational consultation should include:

- i. Separate consultation sessions, which are strongly recommended for the donor(s) and recipient(s), as well as a joint session with the donor, donor's partner, and recipient(s) to discuss expectations, communication, and future relationships
- ii. Discussion with the recipient(s) about future implications for their children having full genetic siblings in other families

- iii. Exploration of contact and roles between and among families
- iv. Impact of possible treatment failure
- v. Donor and recipient(s) plan regarding disposition of any remaining embryos
- vi. Challenges of anonymity because of direct-to-consumer DNA testing, technological advances, and social media and implications for donor-conceived families

VI. GENETIC SCREENING AND COUNSELING—DONORS AND RECIPIENTS

a. Genetic Carrier Screening for Heritable Diseases

The decision to proceed with gamete donation is complex, and the following recommendations are intended to provide general guidelines for genetic considerations.

i. Recommended non-identified (anonymous) donor carrier screening.

- a. Screening for cystic fibrosis, spinal muscular atrophy, and thalassemia/hemoglobinopathy carrier status should be performed on all oocyte and sperm donors (21)
- b. Routine carrier screening for fragile X syndrome carrier status may be considered for all oocyte donors regardless of family history. Screening for fragile X syndrome carrier status should be performed on all oocyte donors with a family history of fragile X-related disorders or intellectual disability suggestive of fragile X syndrome.
- c. Additional expanded carrier screening may also be appropriate. Panethnic expanded carrier screening is recommended over ethnicity-based panels, given the limitations of self-reported ethnicity, increasingly multiethnic populations, given that rare recessive conditions can occur in any ethnic group despite lower carrier frequencies. It is important to note that different panels may test for different conditions; ideally, oocyte and sperm sources should be screened for the same conditions. If carrier screening is performed using different panels in the same or different laboratories, ideally, a professional should review the results to evaluate and disclose the reproductive risk to help determine whether additional screening is warranted.
- d. Embryo donors may not meet the preceding genetic carrier screening recommendations, particularly if the embryos were created using autologous oocytes and sperm. Updated genetic screening may be requested of embryo donors, if desired, but should not be considered a barrier to donating.
- e. Recipients using a directed donor should be offered the preceding carrier screening options for their directed donor.

ii. Donor counseling.

- a. Donors should provide informed consent, ideally through a written consent form, before carrier screening.
- b. Informed consent should include the following details: a description of the test, types and number of conditions included, chance that the donor will be found to be a carrier, implications of being a carrier, possibility for recontact for additional samples or testing in the future, and

possibility of the results revealing a potential health risk to the carrier (e.g., homozygous for a recessive disease, carrier of a condition with health risks to carriers)

- c. Carrier screening results should be disclosed to the donor, and they should be provided a copy of their results and given an opportunity to discuss their results with a genetic counselor.
- d. Informed consent should be obtained anew before updating a donor's genetic testing result using stored tissue samples.

iii. Donor eligibility.

- a. Donors who are heterozygous carriers of autosomal recessive conditions, with no health risks to carriers, need not be excluded.
- b. Donors who are carriers for recessive conditions that confer significant health risks to carriers (e.g., ataxia-telangiectasia and Nijmegen breakage syndrome) should be considered on a case-by-case basis.
- c. Eligibility of donors found to be homozygous, but apparently asymptomatic, for autosomal recessive conditions (e.g., biotinidase deficiency and 21-hydroxylase congenital adrenal hyperplasia) should be considered on a case-by-case basis, with consideration of the specific condition, possible symptoms, impact on fertility treatments, and reproductive risk.
- d. Oocyte donors who are carriers of X-linked conditions, with conditions such as glucose-6-phosphate dehydrogenase deficiency (mild disease presentation) and fragile X intermediate alleles (no risk for full expansion to the next generation) as possible exceptions, should be excluded.

iv. Recipient counseling.

- a. Counseling regarding the residual risk and reproductive implications of carrier screening is best provided by a certified genetic counselor or a professional board member of the American Board of Medical Genetics and Genomics (ABMG) or American Board of Genetic Counseling (ABGC).
- b. Recipient(s) should be counseled about their donor's carrier screen results. Counseling about positive results should include information about the natural history of the condition(s), carrier frequency, autosomal recessive inheritance, detection rate of the screening, and residual risk after a negative result.
- c. The recipient should be given the option of carrier screening for the reproductive partner. Some recipients may choose to decline carrier screening after adequate counseling; declination of carrier screening should be documented.
- d. If a donor carries a recessive condition, the recipient and reproductive partner (as appropriate) should receive counseling regarding the implications of the carrier status specific to the condition and should provide informed consent before proceeding with the donor.
- e. Donor embryo recipients should be advised about any carrier screening results that are available for their embryo donors, including the limitations of their screening results or lack thereof.

b. Family History Screening for Non-Identified (Anonymous) Donors

i. Recommended donor family history screening.

- a. All donors should provide a detailed 3-generation family history description to the extent possible. Donors who are adopted and those who are unable to provide any family history information about their genetic relatives should be considered on a case-by-case basis.
- b. Providers reviewing family history should be aware that some autosomal dominant or X-linked disorders can have the following features:
 - i. Variable expressivity: Mutation carriers may exhibit different symptoms even within one family, e.g., fragile X syndrome and neurofibromatosis).
 - ii. Reduced penetrance: Mutation carriers may not develop symptoms, e.g., hereditary breast and ovarian cancer.
 - iii. Age of onset that extends beyond the age of the donor and his/her first-degree relatives, e.g., Huntington disease.
- c. Given the complexity of recognizing patterns that may signify an increased health risk to donor-conceived offspring, assessing reproductive risk, determining possible genetic testing options, communicating relevant information to donors and recipients, family history review, and assessment of donors should be performed by a certified genetic counselor or a professional boarded by ABMG or ABGC.

ii. Donor counseling.

- a. Donors should be informed of their duty to update the clinic or agency about relevant family history changes over time, such as a new diagnosis of a genetic disease or a chronic medical condition in the donor and their first-degree relatives.
- b. If a donor's family history suggests the need for additional genetic testing for the donor, the donor should be referred to a certified genetic counselor or a professional board member of ABMG or ABGC. Additional genetic testing without referral to a genetics professional would be inappropriate.

iii. Non-identified (anonymous) donor eligibility

1. Monogenic conditions.

- a. Donors should not be known to carry a mutation for an autosomal dominant or X-linked disorder. Exceptions may be made for conditions considered to have mild health risks to carriers, such as red-green color blindness or glucose-6-phosphate dehydrogenase deficiency, as long as recipients are informed of potential health risks to the offspring.
- b. Donors with a known family history of a dominant, recessive, or X-linked disorder may be referred for genetic counseling and potentially genetic testing for that specific disorder, if desired and appropriate.
- c. Donors with a known family history (in a first-, second-, or third-degree relative) of a dominant or X-linked disorder that has a potential to have been passed on to the donor

should be excluded in the absence of risk-reducing genetic testing, as described herein.

- d. Genetic test results, if available for the donor or their family members, may determine the appropriateness of using that donor. Donors with negative genetic testing results for a familial mutation in themselves or an appropriate intervening relative are eligible to donate, provided that review of the genetic test reports is performed by a certified genetic counselor or professional board member of ABMG or ABGC.
- e. Donors whose family history is strongly suggestive of an undiagnosed autosomal dominant or X-linked disease (e.g., a family history suggestive of hereditary breast cancer, Marfan syndrome, retinitis pigmentosa) should be excluded if the donor is at an increased risk of that disorder. Donors may be referred for additional clinical screening, genetic counseling, or genetic testing, which could reduce risk to the offspring and make the donor eligible.

2. Congenital anomalies.

- a. Donors with a major malformation of a complex cause (multifactorial/polygenic), such as a neural tube defect, limb deficiency, cleft lip, or cardiac malformation, should be excluded. A major malformation is defined by CDC as an anomaly that carries serious functional or cosmetic handicap, which typically requires medical follow-up or intervention (CDC website-based definitions). A noninclusive list of major malformations can be found at <https://www.cdc.gov/ncbddd/birthdefects/data.html> (22).
- b. Donors with isolated minor congenital anomalies, defined by CDC as structural differences that do not have significant medical, social, or cosmetic consequences, may be approved as long as the history is not otherwise suggestive of an underlying genetic syndrome. A noninclusive list of anomalies that may be considered minor can be found in Appendix B of the CDC Birth Defects Surveillance Manual (22).
- c. Donors with a first-degree relative with a major malformation of a complex cause (as described previously) should be considered on a case-by-case basis, taking into account the severity of the malformation, relative risk to second-degree relatives, and general population frequency.

3. Multifactorial conditions.

- a. Risk assessment of multifactorial conditions is complex and should be performed by a certified genetic counselor or professional board member of ABMG or ABGC.
- b. Donors with a personal history of an autism-spectrum disorder or those with a first-degree relative with an autism-spectrum disorder should be excluded.
- c. Donors with a personal history of intellectual disability or those with a first-degree relative with an intellectual disability of undocumented etiology should be excluded.
- d. Donors with a personal history of cerebral palsy should be excluded. Donors with first-degree relatives with a diagnosis of cerebral palsy but insufficient evidence of perinatal anoxia, prematurity, or other risk factors should be excluded.
- e. Eligibility of donors with a personal history of attention deficit hyperactivity disorder (ADHD) or those with a

first-degree relative with ADHD should be considered on a case-by-case basis, with consideration of factors such as the severity of symptoms, impact on daily function, and results of gamete donor's psychological assessment. If approved, the recipients should be informed of the potentially high heritability of ADHD as well as the increased risks of genetically related disorders. Additionally, the donor's severity of symptoms may not be helpful in predicting the severity of symptoms in future generations.

- f. Donors with a personal history of a serious mental illness or those with a first-degree relative with a serious mental illness, as defined by the Substance Abuse and Mental Health Services Administration (23), should be excluded. Serious mental illnesses typically include bipolar disorder, schizophrenia, schizoaffective disorder, and major depression, as diagnosed by a licensed mental health professional.
- g. Donors with a personal history of a medical condition that significantly impacts the donor's quality of life, requires lifelong medication, or requires frequent medical follow-up should typically be excluded (e.g., diabetes, idiopathic epilepsy, severe hearing loss, severe vision loss, and cardiac conduction abnormalities).
- h. Multifactorial health conditions are common and are reported in most donors' family histories. Some examples of multifactorial conditions are hypertension, thyroid disorders, asthma, and arthritis. Most donors with a family history of multifactorial conditions can be approved, although recipients should be made aware of any increased risks to the offspring.
- i. Factors supporting the exclusion of a donor because of a family history of a multifactorial condition may include having multiple (≥ 2) affected first- or second-degree relatives, young ages of onset, severe symptoms, reduced quality of life, limited treatment, significant impact on daily functioning, low prevalence in the general population, and high genetic risk to the offspring.

4. Chromosomal conditions.

- a. Donors should not have a known karyotype abnormality, such as a translocation, inversion, or sex chromosome disorder, that may result in chromosomally unbalanced gametes.
- b. In the general population, the chance of having a chromosomal rearrangement that can be transmitted in an unbalanced form to the offspring is small, provided that the donor's family history is negative for risk factors. Therefore, routine karyotyping of all donors is optional.
- c. Karyotyping is recommended if the donor has a personal history of recurrent pregnancy loss, if a first- or second-degree relative is known to have a chromosome abnormality, or if the family history is suggestive of a chromosome rearrangement (such as multiple miscarriages, infertility, stillbirths, birth defects, or intellectual disability).
- d. When there is a known chromosome abnormality in the family, the test reports for the patient should be reviewed by an appropriate genetics professional to ensure that the appropriate genetic test has been performed.

iv. Recipient counseling.

- a. The donor's complete family history should be provided to the recipient, and the recipient should be given the option of reviewing the family history with a certified genetic counselor or professional boarded by ABMG or ABGC.
- b. The intentions of the abovementioned eligibility criteria are to assist clinics and agencies in developing minimal standards for non-identified (anonymous) donor eligibility and safeguard recipients from selecting a donor whose family history suggests excessive genetic risks for the offspring, without appropriate counseling or informed consent.
- c. Recipients should be advised about the limitations of family history assessment. The effectiveness of these criteria is dependent on accurate reporting of family history and genetic testing results by the donor. Family history assessment may be limited by factors such as small family size or limited/partial information about the donor's genetic relatives. Many health conditions, birth defects, and genetic diseases are not predictable based on family history assessment, and stringent adherence to these criteria does not guarantee that there will be no genetic risks to the genetic offspring of a particular donor.
- d. There may be situations in which a donor whose family history does not meet these criteria is still desired by a particular recipient. If a donor's family history does not meet the abovementioned criteria, recipients should be offered genetic counseling about the condition, risk to the donor-conceived offspring, limitations of genetic testing results, if available, and recommendations for additional testing and screening of the offspring. Recipients should provide informed consent to proceed with a donor whose family history has significant health risks to the donor-conceived offspring.
- e. It may not be appropriate to apply the abovementioned donor eligibility criteria to embryo donors, given the key differences between embryo donation and oocyte/sperm donation. However, it is recommended that clinics and agencies attempt to collect the details of 3-generation family histories from embryo donors. Donor embryo recipients should receive the available information about the donor's family history and should be given an option of having the family history and the associated health risks reviewed by a certified genetic counselor, or professional boarded by ABMG or ABGC.
- f. It may not be appropriate to apply the abovementioned donor eligibility criteria to directed egg and sperm donors; however, it is strongly recommended that clinics and agencies offer recipients an option of having the family history of their directed donor assessed by a certified genetic counselor.

VII. LEGAL CONSIDERATIONS—DONORS AND RECIPIENTS

Consultation with an attorney is strongly recommended for all participants in directed donation and should be offered but is not required for all individuals receiving or donating gametes. Legal requirements may vary by state.

VIII. FDA DONOR ELIGIBILITY—QUESTIONNAIRE, PHYSICAL EXAMINATION, AND LABORATORY TESTING**a. FDA Donor Eligibility Medical Questionnaire (Questions as of December 2019)**

Donors should be healthy. A complete personal and sexual history should be obtained to exclude individuals who might be at a high risk of HIV, STIs, or other infections that might be transmissible via gamete donation. Prospective donors with any of the following factors should be deemed ineligible (as of January 2020):

- i. Males with a history of sex with another man, or females with a history of sex with a male who has had sex with another male in the preceding 5 years
- ii. Individuals who have injected drugs for nonmedical reasons in the preceding 5 years, including intravenous, intramuscular, and subcutaneous injections
- iii. Individuals with hemophilia or other related clotting disorders who have received human-derived clotting factor concentrates in the preceding 5 years
- iv. Individuals who received clotting factors once to treat an acute bleeding event >12 months ago may be eligible to donate
- v. Individuals who have had sex in exchange for money or drugs in the preceding 5 years.
- vi. Individuals who have had sex in the preceding 12 months with any person meeting any of the criteria described immediately above or with any person with HIV infection, including a positive or reactive test result to HIV virus, hepatitis B infection, or clinically active (symptomatic) hepatitis C infection
- vii. Individuals who have been exposed within the last 12 months to percutaneous inoculation or contact with an open wound, nonintact skin, or a mucous membrane to blood that is known or suspected to be infected with HIV, hepatitis B, and/or hepatitis C virus
- viii. Individuals who have had close contact (e.g., living in the same household where sharing of kitchen and bathroom facilities occurs regularly) with another person with hepatitis B or clinically active (symptomatic) hepatitis C infection within the 12 months preceding the donation
- ix. Individuals who have been incarcerated in lock-up, jail, or prison for >72 consecutive hours within the previous 12 months
- x. Individuals who had or have been treated for syphilis, gonorrhea, or chlamydia within the preceding 12 months. Deferral of donors is not necessary when there is evidence of successful treatments >12 months before
- xi. Individuals who have undergone body piercing and/or tattooing procedures within the preceding 12 months in which sterile procedures were not used or it is unclear whether sterile procedures were used (e.g., contaminated instruments and/or ink were used or shared instruments that had not been sterilized between uses were used)
- xii. Individuals who have received smallpox vaccination (vaccinia virus) for 21 days after vaccination or until

the scab separates spontaneously and physical examination confirms the absence of a scab at the vaccination site (whichever is later). The donor should be deferred for 2 months if the scab is removed before spontaneous separation. If the donor experiences complications due to the vaccination, he should be deferred until 14 days after complete resolution of the complications. If the donor becomes infected as a result of close contact with a person recently vaccinated for vaccinia, he may be considered eligible for donation if the scab has spontaneously separated, if 14 days have elapsed since the resolution of all the vaccinia-related complications, or 3 months after the scab was otherwise removed

- xiii. Individuals who have had a medical diagnosis or suspicion of West Nile virus (WNV) infection (based on symptoms and/or laboratory results or confirmed WNV viremia) should be deferred for 120 days after the onset of symptoms or diagnosis, whichever is later
- xiv. Individuals who have tested positive or reactive for WNV infection using an FDA-licensed or investigational WNV NAT in the preceding 120 days
- xv. Individuals who have been diagnosed with variant Creutzfeldt-Jakob disease (CJD) or any other form of CJD
- xvi. Individuals who have been diagnosed with dementia or any other degenerative or demyelinating disease of the central nervous system or other neurologic disease of unknown etiology. Potential donors who have been diagnosed with delirium (e.g., delirium caused by toxic/metabolic diseases or recent head trauma) are not necessarily considered to be diagnosed with dementia and should be evaluated by a medical director
- xvii. Individuals who are at an increased risk of CJD. Donors are considered to be at an increased risk of CJD if they have received a nonsynthetic dura mater transplant, human pituitary-derived growth hormone, or have ≥ 1 blood relatives diagnosed with CJD
- xviii. Individuals who have a history of CJD in a blood relative unless the diagnosis of CJD is subsequently found to be an error, CJD is iatrogenic, or laboratory testing (gene sequencing) demonstrates that the donor does not have a mutation associated with familial CJD
- xix. Individuals who have spent ≥ 3 months cumulatively in the United Kingdom from the beginning of 1980 through the end of 1996
- xx. Individuals who are current or former US military members, civilian military employees, or dependents of a military member or civilian employee who resided at US military bases in Northern Europe (Germany, Belgium, and the Netherlands) for ≥ 6 months cumulatively from 1980 through 1990 or elsewhere in Europe (Greece, Turkey, Spain, Portugal, and Italy) for ≥ 6 months cumulatively from 1980 through 1996
- xxi. Individuals who have spent ≥ 5 years cumulatively in Europe from 1980 until the present
- xxii. Individuals who have received any transfusion of blood or blood components in the United Kingdom or France between 1980 and the present

- xxiii. Individuals or their sexual partners who were born or have lived in certain countries in Africa (Cameroon, Central African Republic, Chad, Congo, Equatorial Guinea, Gabon, Niger, or Nigeria) after 1977 (risk factor for HIV group O)
- xxiv. Individuals who have received a blood transfusion or any medical treatments that involved blood in the countries listed in VIII.w. after 1977 (risk factor for HIV group O)
- xxv. Individuals who have received xenotransplants (live cells, tissues, or organs from a nonhuman animal source or human body fluids, cells, tissues, or organs that have had ex vivo contact with live nonhuman animal cells, tissues, or organs) or have been in close contact with a xenotransplant recipient
- xxvi. Individuals who have received human organ or tissue transplants or treatments with human extracts
- xxvii. Individuals who have been diagnosed with Zika virus infection in the past 6 months
- xxviii. Individuals who have been in an area with active Zika virus transmission in the past 6 months
- xxix. Individuals who have had sex with a male that has been diagnosed with Zika virus infection or has been to an area with active Zika virus infection in the last 6 months

Resources.

- Guidance for industry: Eligibility determination for donors of human cells, tissues, and cellular and tissue-based products (HCTPs): <https://www.fda.gov/media/73072/download> (4)
- Guidance for industry: Donor screening recommendations to reduce the risk of transmission of Zika virus by human cells, tissues, and cellular and tissue-based products: <https://www.fda.gov/media/96528/download> (4).

b. FDA Donor Eligibility Laboratory Testing

Laboratory requirements for FDA donor eligibility are outlined in [Table 4](#).

i. Managing laboratory results.

- a. A positive test should be verified before notifying the potential donor. If a test result is confirmed positive, the individual should be referred for appropriate counseling and management.

TABLE 4

Laboratory tests required by FDA for gamete donors.

- Chlamydia
- Gonorrhea
- Hepatitis B surface antigen
- Hepatitis B core antibody (IgG and IgM)
- HIV 1 antibody and NAAT
- HIV 2 antibody
- HIV group O antibody
- Hepatitis C antibody
- HIV 1/2 NAAT
- RPR
- WNV NAAT
- HTLV types I and II (men only)
- CMV IgM and IgG (men only)

Note: CMV = cytomegalovirus; FDA = U.S. Food and Drug Administration; HIV = human immunodeficiency virus; HTLV = human T-cell lymphotropic virus; IgG = immunoglobulin G; IgM = immunoglobulin M; NAAT = nucleic acid amplification testing; RPR = rapid plasma reagin for syphilis; WNV = West Nile virus.

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- b. Individuals who initially test positive (except for treated syphilis, *Neisseria gonorrhoeae*, or *Chlamydia trachomatis* as described previously) are not eligible for non-identified (anonymous) donation.
- c. Individuals with false-positive results in nontreponemal assays for syphilis that are confirmed to be negative using a treponemal-based assay are eligible for donation.
- d. Donors found to be positive for syphilis, *Neisseria gonorrhoeae*, or *Chlamydia trachomatis* should be treated, retested, and deferred from donation for 12 months after documentation that treatment was successful before being reconsidered. If evidence is presented that treatment occurred >12 months ago and was successful, no further deferral is needed as long as current tests do not indicate an active infection.
- e. Individuals who test positive for active infection with CMV (positive urine or throat culture or paired serum samples demonstrating a fourfold increase in IgG and IgM antibody levels at least 30% of the IgG level) should be excluded. Because CMV is so common, insemination with semen from a CMV-seropositive man (without active infection) is permissible when the female partner is also CMV-seropositive or after informed consent from a seronegative woman. Although the practice is not entirely without risk, because there are many strains of CMV and superinfection is possible, the associated risk of newborn CMV infection is approximately 1%, and such infants appear to have no significant illness or other abnormality.

c. FDA Donor Eligibility Physical Examination

Before acceptance and every 6 months while remaining an active donor, donors should undergo a complete physical examination and should be denied participation if any of the following findings is present:

- i. Physical evidence for the risk of sexually transmitted disease, such as genital ulcerative lesions, herpes simplex, chancroid, or urethral discharge
- ii. Physical evidence for the risk of syphilis
- iii. Physical evidence of anal intercourse, including perianal condylomata
- iv. Physical evidence of nonmedical percutaneous drug use, such as needle tracks; the examination should include examination of tattoos, which might be covering needle tracks
- v. Physical evidence of recent (within 12 months) tattooing, ear piercing, or body piercing where a sterile technique was not used
- vi. Disseminated lymphadenopathy
- vii. Unexplained oral thrush
- viii. Blue or purple spots consistent with Kaposi sarcoma
- ix. Unexplained jaundice, hepatomegaly, or icterus
- x. Large scab consistent with a recent history of smallpox immunization
- xi. Eczema vaccinatum, generalized vesicular rash, severely necrotic lesion (consistent with vaccinia necrosum), or corneal scarring (consistent with vaccinia keratitis)

Resources.

- Guidance for industry: Eligibility determination for donors of human cells, tissues, and cellular and tissue-based products (HCTPs): <https://www.fda.gov/media/73072/download> (4)
- Sample donor physical examination form: <https://www.aatb.org/sites/default/files/AATB%20Guidance%20Document%20No.%201%2C%20v2%20%286.27.05%29.pdf> (6)

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Guía sobre la donación de gametos y embriones.

Este documento proporciona las recomendaciones más recientes para la evaluación de posibles donantes de esperma, ovocitos y embriones, así como sus receptores, incorporando información reciente sobre detección y pruebas óptimas para infecciones de transmisión sexual, enfermedades genéticas y evaluaciones psicológicas. Este documento revisado incorpora información reciente de los Centros para el Control y la Prevención de Enfermedades de EE. UU., La Administración de Drogas y Alimentos de EE. UU. y la Asociación Estadounidense de Bancos de Tejidos, con la que todos los programas que ofrecen servicios de donación de gametos y embriones deben estar completamente familiarizados y reemplaza el documento titulado "Recomendaciones para la donación de gametos y embriones: opinión del comité", publicado por última vez en 2013.