

Guidance for Industry

Revised Recommendations for the Assessment of Donor Suitability and Blood Product Safety in Cases of Suspected Severe Acute Respiratory Syndrome (SARS) or Exposure to SARS

FINAL GUIDANCE

This guidance is being distributed for immediate implementation.

FDA is issuing this guidance for immediate implementation in accordance with 21 CFR 10.115(g)(3). The agency has determined that seeking comments from the public prior to implementation is not appropriate or feasible because there is an immediate need for clarification whether FDA recommends that establishments continue to screen donors on the basis of travel to SARS-affected areas during time periods when CDC has identified no areas as currently affected by SARS.

FDA invites comments on this document. Please submit comments to the Division of Dockets Management (HFA-305), Food and Drug Administration, 5630 Fishers Lane, rm. 1061, Rockville, MD 20852. You should identify all comments with the docket number listed in the notice of availability that publishes in the *Federal Register*. FDA will review any comments received and will revise the guidance document as appropriate.

Additional copies of this guidance are available from the Office of Communication, Training, and Manufacturers Assistance (HFM-40), 1401 Rockville, MD 20852-1448, or by calling 1-800-835-4709 or 301- 827-1800, or from the Internet at <http://www.fda.gov/cber/guidelines.htm>.

For questions on the content of this guidance contact the Division of Blood Applications, Office of Blood Research and Review at 301-827-3524.

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This guidance represents the Food and Drug Administration's (FDA's) current thinking on this topic. It does not create or confer any rights for or on any person and does not operate to bind FDA or the public. You can use an alternative approach if the approach satisfies the requirements of the applicable statutes and regulations. If you want to discuss an alternative approach, contact the FDA staff responsible for implementing this guidance. If you cannot identify the appropriate FDA staff, call the appropriate number listed on the title page of this guidance.

I. INTRODUCTION

This guidance document provides our revised recommendations for assessing donor suitability and blood product safety with respect to Severe Acute Respiratory Syndrome (SARS). This guidance applies to Whole Blood and blood components intended for transfusion (including red blood cells for immunization) and blood components including recovered plasma, Source Leukocytes and Source Plasma intended for use in further manufacturing into injectable products or non-injectable products. Within this document, “donors” refers to all such donors. The Food and Drug Administration (FDA) developed the recommendations in this guidance in consultation with other Public Health Service Agencies of the Department of Health and Human Services. Within this guidance, “you” refers to blood establishments, “we” and “our” refers to the FDA. This guidance does not apply to tissue establishments or to human cells and tissues other than blood. However, tissue establishments may consider implementing similar donor screening practices. This guidance supersedes our previously issued guidance entitled “Guidance for Industry: Recommendations for the Assessment of Donor Suitability and Blood Product Safety in Cases of Suspected Severe Acute Respiratory Syndrome (SARS) or Exposure to SARS” dated April 2003.

FDA's guidance documents, including this guidance, do not establish legally enforceable responsibilities. Instead, guidances describe the Agency's current thinking on a topic and should be viewed only as recommendations, unless specific regulatory or statutory requirements are cited. The use of the word *should* in Agency guidances means that something is suggested or recommended, but not required.

II. BACKGROUND

A. Epidemiology and Pathogenesis

The Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO) have been investigating a worldwide outbreak of unexplained atypical pneumonia referred to as Severe Acute Respiratory Syndrome (SARS). As of July 2003, over 8,000 probable cases of SARS have been reported to WHO from 31 countries; in the United States as of July 2003, over 300 suspected cases have been reported to CDC from about 30 states. Of the United States cases, about 95% had traveled to outbreak areas listed in the case definition within 10 days prior to the onset of clinical illness, and the remainder had a history of close contact with a person with suspected SARS. Of these cases reported worldwide, approximately 10% (over 800 cases) have been fatal. In the United States, the majority of patients have recovered or stabilized clinically without specific antiviral therapy; no fatalities have been reported as of July 2003 (Refs. 1-4 and unpublished CDC communication).

Laboratories at CDC and elsewhere (SARS Laboratory Network organized by WHO) have detected a new coronavirus in SARS patients (Refs. 5-9). Diagnostic tests (nucleic acid and serological) for SARS based on the detection of acute infection with the novel coronavirus are currently under investigational use.

B. Definitions

1. CDC Case Definition of Suspected SARS

CDC's current interim case definition for a United States case of suspected SARS is posted on CDC's website (Ref. 2).

Respiratory illness which meets the clinical and epidemiologic criteria set forth in CDC's websites, such as:

- Measured temperature > 100.4 °F (>38 °C), AND
- One or more clinical findings of respiratory illness (e.g., cough, shortness of breath, difficulty breathing, hypoxia): and radiographic findings of pneumonia or respiratory distress syndrome, or autopsy findings consistent with pneumonia or respiratory distress syndrome without an identifiable cause), AND
- Travel within 10 days of onset of symptoms to an area identified by CDC as a SARS-affected area at the time of the donor's travel, OR close contact within 10 days of onset of symptoms with either a person known or suspected to have SARS.
 - Please consult CDC for the updated list of SARS-affected areas and current SARS definition (see section II.B.3 below for CDC website and phone number). The list and definition are subject to change. The CDC definition currently excludes areas with secondary cases limited to healthcare workers or direct household contacts.
 - Travel includes transit in an airport in an area with documented or suspected community transmission of SARS.

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- Close contact is defined as having cared for, having lived with, or having had direct contact with respiratory secretions and/or body fluids of a patient known to be a suspect SARS case. Please consult CDC for the updated case definitions, including the definition of close contact (see section II.B.3 below for CDC website and phone number).

2. Use of CDC Case Definition in Guidance

For donor screening purposes, this guidance currently does not distinguish suspected SARS from probable SARS. The phrase “SARS and suspected SARS” as used in this guidance reflects the current lack of an available approved diagnostic test for SARS.

Although WHO and CDC currently use 10 days as the incubation period in their respective case definitions, 14 days may be more appropriate for donor screening as a conservative upper limit of the asymptomatic incubation period (time between exposure to the SARS agent and the onset of clinical symptoms), based on current available information (Ref. 6). This guidance makes recommendations using 14 days as the asymptomatic incubation period.

3. Updated Information on Case Definitions and SARS-Affected Areas

Epidemiologic and laboratory investigations about SARS are ongoing. The case definitions and the list of SARS-affected areas worldwide are updated periodically as new information becomes available. The case definitions and the updated list of SARS-affected areas may be obtained at the CDC website or by calling CDC:

Website: <http://www.cdc.gov/ncidod/sars/casedefinition.htm>

Phone: 888-246-2675; 8 am - 11 pm weekdays, 10 am - 8 pm weekends

Affected areas are defined by evidence of community transmission of SARS. CDC issues a travel advisory upon notification that an outbreak of SARS is occurring in a geographic area, and when the risk to a traveler is high because of evidence of community transmission and/or inadequate containment. The travel advisory is downgraded to a travel alert when there is no evidence of ongoing community transmission for 20 days after the date of onset of symptoms for the last case without an epidemiological link. CDC removes a travel alert for a geographic area (e.g., country or city) if more than 30 days has lapsed since the date of onset of symptoms for the last SARS case in that area, and limited or no recent instances of exported cases are reported from that area. As of 15 July 2003, travel alerts for all previously identified SARS-affected areas were lifted by CDC, as no areas of the world reported ongoing community transmission of disease (www.cdc.gov/ncidod/sars/travel.htm). It is unknown whether outbreaks of SARS will recur or whether exposure to SARS in geographic areas will again be included in the SARS case definition.

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4. Infection Control Guidelines about SARS

Based on clinical and epidemiological experience to date, CDC has developed interim infection control guidelines for use at healthcare and household settings by infection control practitioners and clinicians providing medical care for patients with suspected SARS, including guidelines for triage of potential SARS cases. These guidelines are available at the CDC websites (Refs. 10-12). We recommend that blood center personnel consult these guidelines frequently to keep abreast of evolving CDC recommendations.

C. Impact of SARS on Blood Safety

The potential for transmission of SARS through blood and blood products is not known. The possibility of a viremic period, before the onset of clinical symptoms and/or after symptom resolution, remains an important concern regarding blood safety. The new coronavirus that is the possible cause of SARS has been isolated from infected kidney, lung, and bronchoalveolar-lavage fluid (Ref. 8) but has not been isolated yet from blood or serum of an infected individual (Refs. 5-9), though data are limited. Detection by nucleic acid amplification of this new coronavirus in blood samples from persons acutely infected with SARS has been reported in a single patient (Ref. 9). Because, as in some other early viral infections, persons with SARS could potentially be viremic without symptoms, transfusion transmission of SARS may be possible. Therefore, until more information is known about the epidemiology and pathogenesis of SARS, we recommend, as a preventative measure, the implementation of blood donor deferral for at least 14 days after possible exposure to SARS. Additionally, in cases of suspected SARS, we recommend donor deferral for at least 28 days after symptom resolution and completion of therapy due to the present uncertainty about possible persistence of viremia and/or viral shedding in body fluids (Ref. 9).

At this time, we believe SARS is unlikely to be transmitted through products manufactured from plasma. Lipid-enveloped RNA virus(es), including the putative agent(s), should be readily removed and/or inactivated during manufacturing of plasma derivatives (Refs. 13, 14). Licensed plasma derivatives undergo intentional viral clearance procedures that are validated to be effective against lipid-enveloped RNA viruses. These procedures include: filtration, heating, acidification, and detergent treatment. Based on any new scientific information about the safety of plasma derivatives, we intend to revise these recommendations as appropriate.

D. Impact of Guidance on Blood Availability

Our recommendations contained in this revised guidance reflect recent active consultation with CDC. The impact of this guidance on any possible future outbreaks of SARS will vary depending on the geographic areas affected by SARS and thus cannot be predicted. We will monitor closely the impact of this guidance on the blood supply. Based on that impact assessment and any new scientific information about the potential risk of transfusion transmission of the infectious agent(s) causing SARS, we intend to revise these recommendations as appropriate.

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III. RECOMMENDATIONS

Consistent with existing regulations and applicable guidance, donors must be in good health at the time of donation [21 CFR 640.3(b) and 21 CFR 640.63(b)(3)]. Standard procedures that are already in place should serve as an effective safeguard against the unusual donor who seeks to donate after the onset of clinical illness. The following recommendations apply primarily to the potentially infected person during the asymptomatic incubation period before the onset of clinical symptoms.

A. Donor Interview Questions

To ensure that the questions used remain consistent with updated case definitions and the list of SARS-affected areas, we recommend that you routinely and periodically refer to the CDC website (www.cdc.gov/ncidod/sars/casedefinition.htm) or call CDC (888-246-2675; 8 am - 11 pm weekdays, 10 am - 8 pm weekends) to obtain the updated information.

At donor interview, in the event that CDC has identified SARS-affected areas as existing within the previous 90 days, we recommend that you ask (orally or in writing) potential donors about:

1. History of SARS, suspected SARS, or treatment for SARS within the previous 28 days. For example, “In the past 28 days, have you been ill with SARS or suspected SARS?”
2. Close contact within the previous 14 days with persons with SARS or suspected SARS. For example, “In the past 14 days, have you cared for, lived with, or had direct contact with body fluids of a person with SARS or suspected SARS?”

Ninety days after CDC has lifted all travel alerts for SARS-affected areas, we recommend that you discontinue asking donors questions 1) and 2).

At donor interview, in the event that CDC has identified SARS-affected areas as existing within the previous 14 days, we recommend that you ask (orally or in writing) potential donors about:

3. Travel to or residence in SARS-affected areas within the previous 14 days. Blood collection establishments with existing capture questions (e.g., “Have you traveled outside the United States within the past year?”) should review these questions to ensure that they are adequate to identify possible travel to CDC defined SARS-affected areas. Capture questions may be followed up with questions specific to travel to SARS-affected areas as necessary.

If adequate travel capture questions are not currently in use, we recommend that donors be asked a specific question about travel or residence in SARS-affected areas

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within the past 14 days. For example, “In the past 14 days, have you traveled to, traveled through, or resided in areas affected by SARS?”

Note that you should read to or show donors a list of SARS-affected areas as updated by CDC.

Fourteen days after CDC has lifted the travel alert for a geographic area, we recommend that you discontinue asking donors question 3) concerning travel or residence in that area related to SARS.

B. Donor Deferral Actions

We recommend that donors reporting a history of SARS or suspected SARS be asked about duration of symptoms and any treatment given. We recommend that you defer these donors for a period of at least 28 days after complete symptom resolution AND the cessation of any treatment.

For asymptomatic donors with a history of contact with persons with SARS or suspected SARS, we recommend that you defer these donors for a period of at least 14 days after last exposure. For travel/residence exposure, the donor should be deferred for at least 14 days after arrival in the United States.

C. Post-Donation Information and Lookback Investigation

We recommend that you actively encourage donors to report, post donation, any further information about SARS exposure that may have occurred within 14 days prior to donation, or SARS illness or treatment within 28 days prior to donation. Donors should also be encouraged to report SARS illness or treatment that occurs within 14 days after donation. These recommendations on post-donation information and lookback investigation apply to Whole Blood and blood components intended for transfusion (including red blood cells for donor immunization), and to unpooled units of recovered plasma, Source Plasma, and Source Leukocytes, but not to pooled units of plasma.

1. Product Retrieval and Quarantine

If a donor reports, post donation, a history of SARS disease (as described in section III.A.1, above) that occurred within 28 days prior to blood collection, SARS exposure (as described in sections III.A.2 and III.A.3, above) that occurred within 14 days prior to blood collection, or SARS disease that occurred within 14 days after blood collection, we recommend that blood establishments promptly retrieve and/or quarantine the collected in-date units of Whole Blood and/or blood components and any unpooled units collected for further manufacturing.

NOTE: If the donor is symptom-free more than 14 days post-exposure, product retrieval and quarantine are not necessary.

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2. Product Disposition and Special Labeling

Quarantined units should be destroyed in accordance with established procedures, unless distributed for further manufacturing into non-injectable products or for research use under special labeling, as follows:

“Biohazard,” AND
“Collected from a donor with SARS exposure or suspected SARS,”

AND

“For laboratory research use only,” OR
“Intended only for further manufacturing into non-injectable products.”

3. Physician Notification about Potential Transfusion-Transmitted SARS

A blood establishment (including a blood collecting establishment or transfusion service) may receive information that a donor of already-transfused blood or blood components has been exposed to SARS, or became sick with suspected SARS, during the time frames described in section III.A.1-3. We recommend that the establishments consider notifying the treating physician of the recipients of the suspect unit(s) about the post donation information, including whether the donor developed suspected SARS.

4. Notification of State or Local Public Health Departments about Suspected Donor Cases of SARS

We recommend that blood establishments report cases of SARS in either donors or blood recipients to their respective state or local public health departments. Also, if a donor reports the existence of clinical symptoms consistent with SARS within 14 days subsequent to donation, and a possible SARS exposure, CDC has asked blood establishments to contact the CDC’s Assistant Director for Blood Safety, Office of the Director, Division of Viral and Rickettsial Diseases (404-639-2775) to determine if retrieved units should be sent to CDC for laboratory studies, under quarantine and specially labeled as indicated above.

IV. BIOLOGIC PRODUCT DEVIATION AND FATALITY REPORTING

Regulations on reporting of product deviations by licensed manufacturers, unlicensed registered blood establishments, and transfusion services are located at 21 CFR 606.171 and 21 CFR 600.14. Pursuant to these regulations, blood and plasma collection establishments (including establishments that collect Source Leukocytes and licensed manufacturers of leukocyte derivatives) must submit biological product deviation reports for events related to SARS, if the establishment distributed the affected product. Additionally, if a suspect donation results in the fatality of a transfusion recipient, blood establishments must report the fatality to the FDA [21 CFR 606.170(b)].

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V. IMPLEMENTATION

We recommend that you implement the recommendations in this guidance as soon as feasible, but not later than 30 days after the guidance issue date. Consistent with 21 CFR 601.12, licensed establishments implementing these recommendations should submit by official correspondence a statement in their annual reports indicating the date that the establishment revised and implemented their standard operating procedures, consistent with these recommendations. These changes do not require our prior approval.

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VI. REFERENCES

1. Centers for Disease Control and Prevention. Outbreak of Severe Acute Respiratory Syndrome -- worldwide, 2003. *MMWR* 2003; 52:226-228.
2. Centers for Disease Control and Prevention. Severe Acute Respiratory Syndrome (SARS) updated interim case definition. <http://www.cdc.gov/ncidod/sars/casedefinition.htm>
3. World Health Organization. Cumulative number of reported cases of Severe Acute Respiratory Syndrome (SARS). http://www.who.int/csr/sarscountry/2003_04_02/en
4. World Health Organization. Case definitions for surveillance of Severe Acute Respiratory Syndrome (SARS). <http://www.who.int/csr/sars/casedefinition/en>
5. Tsang KW, Ho PL, Ooi GC, et al. A cluster of cases of Severe Acute Respiratory Syndrome in Hong Kong. *New England Journal of Medicine* (on-line). <http://content.nejm.org/cgi/content/abstract/NEJMoa030666v1>.
6. Lee N, Hui D, Wu A, et al. A major outbreak of Severe Acute Respiratory Syndrome in Hong Kong. *New England Journal of Medicine* (on-line). <http://nejm.org/earlyrelease/sars.asp>.
7. Poutanen SM, Low DE, Henry B, et al. Identification of Severe Acute Respiratory Syndrome in Canada. *New England Journal of Medicine* (on-line). <http://nejm.org/earlyrelease/sars.asp>.
8. Ksiazek TG, Erdman D, Goldsmith C, et al. A novel coronavirus associated with Severe Acute Respiratory Syndrome. *New England Journal of Medicine* (on-line). <http://nejm.org/earlyrelease/sars.asp>.
9. Drosten C, Guenther S, Preiser W, et al. Identification of a novel coronavirus in Patients with Severe Acute Respiratory Syndrome. *New England Journal of Medicine* (on-line). <http://nejm.org/earlyrelease/sars.asp>.
10. Centers for Disease Control and Prevention. Interim guidance on infection control precautions for patients with suspected Severe Acute Respiratory Syndrome (SARS) and close contacts in households. <http://www.cdc.gov/ncidod/sars/ic-closecontacts.htm>.
11. Centers for Disease Control and Prevention. Triage of Patients Who May Have Severe Acute Respiratory Syndrome: Interim Guidance for Screening in Ambulatory Care Settings. http://www.cdc.gov/ncidod/sars/triage_interim_guidance.htm
12. Bartlett JG, Dowell SF, Mandell LA, et al. Practice guidelines for the management of community-acquired pneumonia in adults. *Clinical Infectious Disease* 2000; 31:347-382.
13. Lamarre A and Talbot PJ. Effect of pH and temperature on the infectivity of human coronavirus 229E. *Canadian Journal of Microbiology* 1989; 35:972-974.
14. Bucknall RA, King LM, Kapikian AZ, et al. Studies with human coronaviruses. II. Some properties of strains 229E and OC43. *Proceedings of the Society of Experimental Biology and Medicine* 1972; 139:722-727.