
Screening

Donated Blood

for Transfusion-

Transmissible

Infections

Recommendations

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Preface

Blood transfusion is a life-saving intervention that has an essential role in patient management within health care systems. All Member States of the World Health Organization (WHO) endorsed World Health Assembly resolutions WHA28.72 (1) in 1975 and WHA58.13 (2) in 2005. These commit them to the provision of adequate supplies of safe blood and blood products that are accessible to all patients who require transfusion either to save their lives or promote their continuing or improving health.

WHO recommends the following integrated strategy for the provision of safe blood and blood products and safe, efficacious blood transfusion (3).

- 1 Establishment of well-organized blood transfusion services that are coordinated at national level and that can provide sufficient and timely supplies of safe blood to meet the transfusion needs of the patient population.
- 2 Collection of blood from voluntary non-remunerated blood donors at low risk of infections that can be transmitted through blood and blood products, the phasing out of family/replacement donation and the elimination of paid donation.
- 3 Quality-assured screening of all donated blood for transfusion-transmissible infections, including HIV, hepatitis B, hepatitis C, *Treponema pallidum* (syphilis) and, where relevant, other infections that pose a risk to the safety of the blood supply, such as *Trypanosoma cruzi* (Chagas disease) and *Plasmodium* species (malaria); as well as testing for blood groups and compatibility.
- 4 Rational use of blood to reduce unnecessary transfusions and minimize the risks associated with transfusion, the use of alternatives to transfusion, where possible, and safe clinical transfusion procedures.
- 5 Implementation of effective quality systems, including quality management, the development and implementation of quality standards, effective documentation systems, training of all staff and regular quality assessment.

The establishment of systems to ensure that all donated blood is screened for transfusion-transmissible infections is a core component of every national blood programme. Globally, however, there are significant variations in the extent to which donated blood is screened, the screening strategies adopted and the overall quality and effectiveness of the blood screening process. As a result, in many countries the recipients of blood and blood products remain at unacceptable risk of acquiring life-threatening infections that could easily be prevented.

In 1991, the World Health Organization Global Programme on AIDS and the then League of Red Cross and Red Crescent Societies published *Consensus Statement on Screening Blood Donations for Infectious Agents through Blood Transfusion* (4). Since then, there have been major developments in screening for transfusion-transmissible infections, with the identification of new infectious agents and significant improvements in the detection of markers of infection in donated blood. The recommendations contained in this document have therefore been

developed to update and broaden the scope of the earlier recommendations. This document is specifically designed to guide and support countries with less-developed blood transfusion services in establishing appropriate, effective and reliable blood screening programmes.

It should be recognized, however, that all blood screening programmes have limitations and that absolute safety, in terms of freedom from infection risk, cannot be guaranteed. In addition, each country has to address specific issues or constraints that influence the safety of its blood supply, including the incidence and prevalence of bloodborne infections, the structure and level of development of the blood transfusion service, the resources available and special transfusion requirements. The safety of the blood supply also depends on its source, the safest source being regular voluntary non-remunerated donors from populations at low risk for transfusion-transmissible infections.

These recommendations are designed to support countries in establishing effective national programmes to ensure 100% quality-assured screening of donated blood for transfusion-transmissible infections. In countries where systems are not yet fully in place, the recommendations will be helpful in instituting a step-wise process to implement them.

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Key recommendations

POLICY RECOMMENDATIONS

- 1 Each country should have a national policy on blood screening that defines national requirements for the screening of all whole blood and apheresis donations for transfusion-transmissible infections.
- 2 There should be a national programme for blood screening which sets out the strategy for screening, with algorithms that define the actual tests to be used in each screening facility.
- 3 All whole blood and apheresis donations should be screened for evidence of infection prior to the release of blood and blood components for clinical or manufacturing use.
- 4 Screening of all blood donations should be mandatory for the following infections and using the following markers:
 - HIV-1 and HIV-2: screening for either a combination of HIV antigen-antibody or HIV antibodies
 - Hepatitis B: screening for hepatitis B surface antigen (HBsAg)
 - Hepatitis C: screening for either a combination of HCV antigen-antibody or HCV antibodies
 - Syphilis (*Treponema pallidum*): screening for specific treponemal antibodies.
- 5 Screening of donations for other infections, such as those causing malaria, Chagas disease or HTLV, should be based on local epidemiological evidence.
- 6 Where feasible, blood screening should be consolidated in strategically located facilities at national and/or regional levels to achieve uniformity of standards, increased safety and economies of scale.
- 7 Adequate resources should be made available for the consistent and reliable screening of blood donations for transfusion-transmissible infections.

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