Blood Management and Transfusion Practice Handbook

2024 edition

OFFICIAL

Contents

Introduction

The following is designed to provide some foundational knowledge for the Transfusion Practitioner role.

If you need further assistance, contact the Blood Matters team via email bloodmatters@redcrossblood.org.au

VICTORIA State Government

Australian Red Cross Lifeblood

Blood Matters

Blood Matters program

Blood Matters, guided by the values, vision, and priorities of the Victorian Department of Health, fosters collaboration to enhance best practices in managing blood and blood products. This includes sustainable, responsible, safe, and appropriate use of blood and blood products, aimed at improving patient outcomes in Victoria.

Health services using blood and blood products are accredited against the National Quality and Safety Health Service Standards, specifically the Blood Management Standard. The Blood Matters program provides tools and resources to assist health services to meet the requirements of this standard.

Tasmania, the Australian Capital Territory, and the Northern Territory collaborate with Blood Matters regularly through memorandums of understanding (MoU).

The Blood Matters team consists of a program manager, data and information managers, a transfusion nurse, a Patient Blood Management (PBM) education coordinator, a nurse consultant, and a scientist. The Blood Matters Advisory Committee (BMAC) is a multidisciplinary advisory and governance committee supporting the Blood Matters program. For more information go to: About the Blood Matters Program < https://www.health.vic.gov.au/patient-care/about-the-blood-matters-program>

Audits

Blood Matters conducts an annual audit focusing on topical issues in transfusion, including blood use, policy, procedure and administrative practices, and anaemia assessment.

On completion of these audits, Blood Matters analises the data and disseminates the findings across the sector to raise awareness, influence practice, promote efficiencies, and provide value. Completed audits can assist health services to update and improve their own policies and procedures to ensure best practice.

Blood Matters audits | health.vic.gov.au <https://www.health.vic.gov.au/patient-care/blood-matters-audits>

Blood Matters has developed audit tools and data collection templates to assist health services when collecting data on transfusion practice.

Audit and data collection | health.vic.gov.au <https://www.health.vic.gov.au/patient-care/audit-and-data-collection>

Education

Blood Matters provides education for clinical staff (nursing and medical) virtually and face-to-face. Twice yearly the Blood Matters team conducts a virtual education series covering the basics of blood management and safe transfusion practice. This education is open to all clinicians but is aimed at clinical nursing staff. A focused series for maternity care and an enrolled nurse study day is also available annually.

If you have any questions about when sessions are scheduled or wish Blood Matters to attend a study day at your health service, please contact the team. Contact details at Blood Matters Program contacts <https://www.health.vic.gov.au/patient-care/blood-matters-program-contacts>

Serious Transfusion Incident Reporting

The Blood Matters Serious Transfusion Incidents Reporting system (STIR) is a central reporting system for Victorian health services to report serious adverse transfusion events, including near miss events. All reported incidents are assessed by an expert group. Under a memorandum of understanding, health services in Tasmania, the Australian Capital Territory, and the Northern Territory also report into STIR.

STIR publishes an annual report on de-identified reported serious events. In addition, the data is used to report transfusion incident data to the National Blood Authority (NBA) Haemovigilance program. The NBA publish a report of national data, the Australian Haemovigilance Report.

A guide for when to report incidents and reactions can be found at Blood Matters: Serious Transfusion Incident Reporting guide <https://www.health.vic.gov.au/publications/blood-matters-serious-transfusion-incident-reporting-guide>

Health services reporting to the system require a health service code. Contact Blood Matters email bloodmatters@redcrossblood.org.au to obtain a code if your health service does not have one.

Health services notify STIR of an event via the notification e-form linked on the Blood Matters STIR webpage <https://stir.transfusion.com.au>. An investigation form is then emailed to the reporter to complete, providing more incident specific detailed information.

Subcutaneous Immunoglobulin (SCIg) Access Program

Subcutaneous Immunoglobulin (SCIg) is a treatment option for eligible patients otherwise requiring Intravenous Immunoglobulin (IVIg). SCIg enables patients or carers to administer SCIg at home at their own convenience, rather than attending a health service for regular IVIg infusions.

The eligibility for patients to access SCIg is set out in the Criteria for the Clinical Use of Immunoglobulin in Australia <https://www.criteria.blood.gov.au/>.

The Victorian Department of Health set up a SCIg Access Program, coordinated by the Blood Matters Nurse Consultant, who works with health services to facilitate SCIg treatment for patients.

The program funding model, contact details of SCIg nurses and coordinators across Victoria, and tools to assist with the provision of information and the development of SCIg programs can all be found on the SCIg access program webpage <https://www.health.vic.gov.au/patient-care/subcutaneous-immunoglobulin-scig-access-program>.

Contact our Nurse Consultant email angraham@redcrossblood.org.au, for more information on developing a SCIg program within your health service.

Transfusion Science and Blood Stewardship

The Blood Matters Scientist supports the scientific workforce to undertake their vital role in blood stewardship. Our scientist provides education and resources to support scientists with best practice in the areas of blood management to ensure compliance with national guidelines and standards.

The Blood Matters red cell wastage reduction project began in August 2014. RBC wastage has reduced from 6.1 per cent, in 2014 to 1.3 per cent in September 2024 through the efforts of all laboratories and health services. In 2019, the focus expanded to include waste reduction of all fresh blood components.

The following principles and approaches have been identified as crucial to the continued reduction of blood and blood product wastage in Victoria:

- Effective inventory management and regularly reviewing stock levels to reduce expiry related waste
- Timely rotation of blood and blood products between health services to ensure components can be transfused before expiry
- Reducing the period RBCs can be allocated following a crossmatch (e.g. 24 hrs)
- Compliance with correct transportation methods/conditions for blood components

- Increasing the use of visual prompts, such as identifying short expiry blood and blood products, in blood fridges, freezers and platelet agitators
- State-wide implementation of electronic crossmatching methods
- Simplifying procedures, promote the production of and compliance with a maximum blood ordering schedule (MBOS)
- Ongoing collaboration between health service and pathology services

More information is available at the Transfusion science and blood stewardship webpage <https://www.health.vic.gov.au/patient-care/transfusion-science-and-blood-stewardship>

The role of the Transfusion Practitioner

The Transfusion Practitioner (TP) is a multifaceted role that promotes best practice in blood management, transfusion safety and blood and blood product stewardship.

TPs can have a variety of titles such as patient blood management coordinator, transfusion nurse or transfusion safety officer. They are commonly senior nurses and are often supported by jurisdictional programs. The Blood Matters Program supports TPs in Victoria, and in Tasmania, Australian Capital Territory (ACT) and Northern Territory (NT), through memoranda of understanding. In New South Wales, support is provided by Blood Watch (Clinical Excellence Commission) and in South Australia it is BloodSafe. Western Australia and Queensland programs are no longer centrally coordinated; however, there are many TPs working in each of these states.

The Blood Matters Transfusion Nurse and Patient Blood Management Education Coordinator provide support for these professional roles in Victoria, Tasmania, ACT and NT .

Lifeblood also has transfusion nurses covering all states and territories who approve IVIg BloodStar requests and facilitate specialist blood component support once approved by transfusion medicine specialists.

Education for Transfusion Practitioners

There are a range of educational opportunities the TP can access to develop and improve the knowledge and skills needed in their role as subject matter experts and change agents.

Local transfusion medicine specialists, transfusion laboratory staff and blood management committees are all great resources to support the TP.

Blood Matters holds a series of forums for TPs:

- A one hour virtual catch up second monthly with content covering discussion of common clinical questions, specialist, or specific education topics and blood sector updates.
- An in- person forum is held at the Lifeblood Melbourne Processing Centre annually. This provides an opportunity to get up to date on the Blood Matters activities, learn from and network with fellow TPs.
- The twice- yearly virtual blood management education series for clinical staff are also recommended for those new to the TP role.

Microcredentials for TPs

The Lifeblood Clinical Education Team has developed a free series of seven microcredentials for TPs. Microcredentials are short, bite-sized curriculums, allowing learners to upskill in specific areas of blood management and transfusion practice. Courses can be accessed via Transfusion courses | Lifeblood <https://www.lifeblood.com.au/health-professionals/learn/transfusion-courses>. You will need to register and log in to access this resource.

Accessing these courses also provides the opportunity to attend the monthly Transfusion Practitioner Microcredential Virtual Community meeting which cover aspects of the role by experts in the area and a Q & A with TPs.

Lifeblood provides other educational resources including eLearning and webinars. Blood information for health professionals | Lifeblood <https://www.lifeblood.com.au/health-professionals>

BloodSafe eLearning

BloodSafe eLearning Australia has many educational courses. This is a great resource for the TP and clinical staff. For further information go to BloodSafe eLearning Australia webpages <https://bloodsafelearning.org.au>

Blood management committees

A blood management committee is essential to oversee blood management and transfusion services within an institution to ensure safe, appropriate, person-centred care and stewardship of blood and blood products.

In some health services this may be a separate committee, while in others it may be incorporated as an agenda item in another clinical governance committee.

The primary roles of the hospital blood management committee (BMC) or equivalent is to ensure:

- blood management and transfusion practice policies and procedures are in place, and align with current best practice guidelines
- blood management and transfusion practices are monitored and adhere to institutional policies and procedures. Feedback, reporting, and improvement activities are undertaken when gaps in practice are identified.
- education is provided to staff regarding patient blood management, safe transfusion practice and blood stewardship
- provision of an active forum to facilitate communication on blood management and transfusion practices.

Membership of the BMC will depend on local factors but where possible should include those with relevant expertise and authority such as an executive sponsor, TP, transfusion scientist, laboratory haematologist and/or registrar, medical and nursing representation from relevant clinical areas, education, and a quality/risk representative.

The TP is usually the key coordinator facilitating regular BMC meetings.

Additional information about the BMC can be found at Lifeblood, Transfusion Committee <https://www.lifeblood.com.au/health-professionals/clinical-practice/patient-blood-management/transfusion-committees>, ANZSBT Guidelines for the Administration of Blood Products, 3rd edition (2024) <https://anzsbt.org.au/wp-content/uploads/2024/02/Guidelines-for-the-Administration-of-Blood-Products-revised-Feb-2024.pdf> and the Australian Commission on Safety and Quality in Health Care <https://www.safetyandquality.gov.au/standards/nsqhs-standards/blood-management-standard/clinical-governance-and-quality-improvement-support-blood-management/action-701>.

The Australian context

The National Blood Authority (NBA) is an Australian government agency that manages the arrangements for the supply of blood, blood products and blood related services in Australia. Funding for the NBA is provided by the Australian federal government (63 per cent) and Australia's state and territory governments (37 per cent).

The National Blood Agreement signed by all Australian governments in 2002 outlines the policy framework for the national blood arrangements.

The primary policy objectives of the National Blood Agreement are:

- To provide an adequate, safe, secure, and affordable supply of blood components, blood products, and blood related services in Australia; and
- To promote the safe, high-quality management and use of blood components, blood products and blood related services in Australia.

The NBA Stewardship Program is aimed at supporting jurisdictions and health providers to implement the requirements of the *Australian Health Ministers' Statement on National Stewardship Expectations on the Supply of Blood and Blood Products* <https://www.blood.gov.au/australian-health-ministers-conference-statement-national-stewardship-expectations-supply-blood-and-blood-products> (the Stewardship Statement), issued on 12 November 2010.

The Jurisdictional Blood Committee (JBC) <https://www.directory.gov.au/portfolios/health-and-aged-care/jurisdictional-blood-committee> was created under the National Blood Agreement in 2003.

The JBC members are senior representatives of the Australian, state and territory governments. They represent the governments' positions on issues related to the national blood supply.

The JBC is also responsible for:

- advising the NBA on matters related to the national blood supply, policy, and contracts
- referring proposed changes to the national blood supply for evidence-based evaluation.

Australia has only one fresh blood component supplier, Australian Red Cross Lifeblood (Lifeblood). Fractionated products are managed through contracts with the successful tenders and include Australian and international suppliers e.g. intravenous immunoglobulin, haemophilia products. Health services order most of these products from Lifeblood, who distributes these products.

National Safety and Quality Health Service Standards

The second edition of the Australian Commission on Safety and Quality in Healthcare National Safety and Quality Health Service (NSQHS) Standards (the Standards) was updated in May 2021. They aim to drive the implementation of safety and quality systems and improving the quality of health care in Australia. The Standards provide a nationally consistent statement about the level of care consumers can expect from health services.

The Blood Management Standard is patient focused, includes important aspects of patient blood management, and acknowledges patients' blood is a valuable and unique resource that should be conserved and managed well. This standard aims to ensure safe, appropriate, effective, and efficient blood management systems are in place to minimise risks associated with the use of blood and blood products.

All accredited health services administering blood or blood products need to meet the Blood Management Standard.

The BMC plays a key role; it is responsible for overseeing systems to improve the quality and safety of patient blood management, and transfusion practice and in meeting all actions of the Blood Management Standard.

Rural or small metropolitan health services may not have access to the expertise available in larger, metropolitan sites; therefore, the governance model may vary, however the requirements of the Blood Management Standard must still be met.

Information on the Standards and the accreditation process is available at the Australian Commission on Quality and Safety webpage: <https://www.safetyandquality.gov.au/our-work/assessment-to-the-nsqhs-standards/nsqhs-standards-second-edition>.

Short notice assessments were introduced in 2023 to ensure the assessment outcome reflects everyday practice, identifies gaps, and supports health services to improve safety and quality systems and processes. The health service will be contacted 24 - 48 hours prior to the accreditation team attending.

National Blood Authority

Patient Blood Management Guidelines

The National Blood Authority (NBA) has funded and managed the development of six evidence-based Patient Blood Management (PBM) Guidelines, <https://www.blood.gov.au/patient-blood-management-guidelines>.

The PBM modules are intended to assist and guide health-care professionals in making appropriate blood management and transfusion decisions for patients in a variety of clinical areas. The guidelines include recommendations and practice points with the aim of reducing the need for blood transfusion where possible and identifying when transfusion is likely to be appropriate.

National Product and Price List

Blood and blood products are provided free of charge to Australian patients. The NBA provides a list of products currently available in Australia and the cost of manufacture. This information is available at: What

Blood Products are Supplied - National Product Price List <https://www.blood.gov.au/blood-products/national-product-price-list>.

BloodNet and BloodSTAR

BloodNet is an online blood ordering and inventory management system that allows staff (most often pathology providers/blood banks) in health facilities across Australia to order blood and blood products from Lifeblood quickly, easily, and securely. Reports can be generated within BloodNet to provide information on usage and wastage for health services, including reasons for the waste.

BloodSTAR is an online system used across Australia to manage access to government funded immunoglobulin products (intravenous and subcutaneous). The system manages the authorisation request and review process for the treatment of conditions identified in the Criteria for the clinical use of intravenous immunoglobulin in Austalia <https://www.criteria.blood.gov.au/>.

You can request access to BloodNet and BloodSTAR via the Blood Portal <https://auth.blood.gov.au/adfs/ls?wa=wsignin1.0&wtrealm=https%3a%2f%2fportal.blood.gov.au%2fPortal%2f&wctx=rm%3d0%26id%3dpassive%26ru%3d%252fPortal%252f&wct=2023-02-13T22%3a32%3a10Z> on the NBA webpage. For security reasons these applications require multifactor authentication.

Bleeding disorders

Information on bleeding disorders and where to find an Australian Haemophilia Treatment Centre are on the NBA webpage, as well as information on the Australian Bleeding Disorders Registry (ABDR).

Guidelines for the management of haemophilia in Australia Guidelines for the management of haemophilia in Australia <https://www.blood.gov.au/guidelines-management-haemophilia-australia>

Haemovigilance reporting

The NBA collates data from state and territory health departments on reported transfusion related adverse events and publishes an annual report - Haemovigilance Reporting <https://www.blood.gov.au/haemovigilance-reporting>.

The Serious Transfusion Incident Reporting (STIR) <https://www.health.vic.gov.au/patient-care/serious-transfusion-incident-reporting-system-stir> system is the Victorian haemovigilance reporting system.

Australian Red Cross Lifeblood (Lifeblood)

Lifeblood provides all fresh blood components for health services as well as distributing fractionated products produced from Australian plasma by CSL Behring Australia <https://www.cslbehring.com.au/> the Australian fractionator, and imported products supplied under NBA contracts.

Lifeblood (previously the Blood Service) was founded in 1929 in Victoria before expanding to other states. It is a division of the Australian Red Cross. In 1996 the individual state blood services amalgamated to form a national Blood Service. In 2019 the Blood Service changed its name to Lifeblood, to reflect the diversity in services provided, which now include human milk for premature babies, microbiome, tissue, and organ donation through collecting, banking, and testing in addition to blood and blood products.

Blood donation

In Australia, blood donations are collected at fixed and mobile collection centres from voluntary, non-remunerated donors. Lifeblood attracts and retains donors through regular advertising and marketing campaigns.

Lifeblood collected over 1.6 million individual donations in 2022-23 [Lifeblood Annual report 2022-23] from over 536,000 donors with nearly 117,000 being new blood donors. Please refer to the current Lifeblood annual report <https://www.lifeblood.com.au/about/our-strategy/annual-reports> for more information.

Lifeblood works alongside Australian regulators, government departments, commercial and professional organisations, as well as international bodies, to constantly review and improve the safety and provision of blood and blood products in Australia.

Lifeblood Medical Services also provides advice, information and education about blood and blood products and transfusion practices to health professionals. Further information is available at Lifeblood, Health Professionals webpage <https://www.lifeblood.com.au/health-professionals>.

Blood donor eligibility

The blood donor eligibility criteria can be checked on the Lifeblood webpage <https://www.lifeblood.com.au/blood/eligibility>.

Donors are asked to complete a donor questionnaire prior to donating. This confidential and legally binding form asks about health and lifestyle and whether they are eligible to donate blood on that day. This became an electronic form in 2019. At each donation, after completing the donor questionnaire, the donors are interviewed by a trained staff member, to review the questionnaire and assess recent/current health and determine that nothing has altered since the last visit. The short interview includes a haemoglobin and blood pressure check.

Approximately 470 mL whole blood is donated. For the majority of donors this is around 10 per cent of their total blood volume and can be donated safely every 12 weeks. The time taken to donate whole blood is around 10 minutes, total appointment time at the donor centre to complete all processes is one hour.

A whole blood donation is separated into three critical components: red cells, plasma, and platelets.

Donors can specifically donate plasma and/or platelets through apheresis donation, every two weeks. Donating this way takes approximately 45-60 minutes, total appointment time 1.5-2 hours.

The demand for red cells in Australia has increased over the past few years, along with a marked growth in the demand for plasma.

Testing donated blood products

Each time blood is donated, Lifeblood tests the donation for ABO group, RhD group and red cell antibodies. It also tests for a number of infectious diseases that may be transmitted by a blood transfusion.

Find out more about blood donation testing at Donation testing <https://www.lifeblood.com.au/health-professionals/testing/donation>.

Test results

Lifeblood notifies donors of any abnormal results on infectious disease and red cell antibody screening once testing is completed. The donor is advised about the health implications of the positive tests. All information held by Lifeblood is confidential and released only to the donor and agencies, such as the Department of Health, as required by law.

Lifeblood Clinical Education Team

The Lifeblood Clinical Education team provide education and resources for all groups of health professionals:

- Lifeblood Blood Component Information: An Extension of Blood Component labels <https://www.lifeblood.com.au/health-professionals/learn/resource-library> provides the details about each of the fresh blood components

- The Resource library | Lifeblood < https://www.lifeblood.com.au/health-professionals/learn/resource-library> has over 200 resources that can be downloaded for use by health services. Some of the most used and referred to are:
    - Blood Component Information: An extension of Blood Component Labels
    - Blood component labelling information
    - Blood component labelling modifier text - provides additional information on the modifications and their clinical indications
    - The Blood Book: Australian Blood Administration Handbook 2020 contains information on blood products and their administration and can be used as a bedside resource to assist with correct transfusion practice.
    - Transfusion pack check is a learning resource for checking patient identification and a blood component pack before transfusion, with exercises for students.
- Transfusion online learning including the Transfusion Practitioner microcredentials <https://www.lifeblood.com.au/health-professionals/learn>
- Lifeblood Online audit tools <https://www.lifeblood.com.au/health-professionals/clinical-practice/patient-blood-management/governance-principles/the-audit-tool> are free easy-to-use online audits that can be used by health services for internal audits and comparison with other health services. You will need to register and log in to access the Lifeblood education portal and audit tools.

Fractionated plasma products

CSL Behring has been Australia's national fractionator of plasma-derived therapeutics since 1952. Plasma fractionation is regulated by the Therapeutic Goods Administration (TGA). Plasma is provided by Lifeblood from voluntary Australian donations to produce high-quality plasma-derived therapeutic products. This includes:

- Immunoglobulins: intravenous/subcutaneous immunoglobulin and other immunoglobulins
- Clotting factors
- Albumin

For further information on products supplied by CSL Behring, and consumer information go to CSL Behring Australia <https://www.cslbehring.com.au/>.

Through 2023-24 CSL Behring changed the manufacturing process for five of Australia's domestic plasma products to improve capacity and match international manufacturing standards. The NBA page: Transition of Australia's domestic plasma products <https://www.blood.gov.au/transition-australias-domestic-plasma-products-0> explains the changes and why they were needed.

For information on available blood and blood products please refer to – National Product Price List | National Blood Authority<https://www.blood.gov.au/blood-products/national-product-price-list>.

Intravenous and subcutaneous immunoglobulin supply

The growth in demand for intravenous immunoglobulin (IVIg) funded under the National Blood Agreement resulted in the development of the Ig Governance - Decision Support Home Page <https://www.criteria.blood.gov.au/>. The criteria were developed and endorsed by the Australian Health Ministers Advisory Council for use by clinicians and are regularly updated.

Australia is not able to supply all the IVIg required for patients from products manufactured with domestic plasma, so imported products, made to the same high specifications and standards of Australian products are used to meet the shortfall.

Lifeblood distributes IVIg to health services for patient use. Nationally there are six funded IVIg products available. All products are approved by the TGA for therapeutic use and each request for IVIg and SCIg needs to be submitted through BloodSTAR to be approved or declined according to the Criteria.

A presentation about the current products is available on the Blood Matters webpage Intravenous Immunoglobulin (IVIg) - changes to supply and governance <https://www.health.vic.gov.au/patient-care/intravenous-immunoglobulin-ivig-changes-to-supply-and-governance >

For a list of imported IVIg and SCIg products visit: Immunoglobulin products | National Blood Authority <https://www.blood.gov.au/blood-products/immunoglobulin-products>.

The governance of IVIg is strictly enforced and information on the process for authorisation and management of IVIg products can be found at Criteria for immunoglobulin products <https://www.blood.gov.au/supply-system/governance-immunoglobulin-products/criteria-immunoglobulin-products>.

Many patients who receive IVIg in health services are eligible for SCIg in the home. This requires a health service to be an approved site with a program to teach and support these patients. Blood Matters has a clinical nurse consultant assisting health services to develop these programs.

Australian and New Zealand Society of Blood Transfusion (ANZSBT)

The Australian and New Zealand Society of Blood Transfusion (ANZSBT) has over 400 members from diverse scientific, medical, and nursing backgrounds working within the area of blood transfusion and related fields.

Vision Statement

The authoritative voice on transfusion medicine for Australia and New Zealand.

Mission Statement

Enhancing patient safety, optimising blood utilisation, and promoting excellence in transfusion throughout Australia and New Zealand through the delivery of rigorous standards, continuous learning, and effective communication.

We advance transfusion by fostering collaboration, research and education whilst striving to provide unbiased evidence-based expertise to healthcare professionals, policymakers, and the public.”

About ANZSBT - ANZSBT : ANZSBT <https://anzsbt.org.au/about/about-anzsbt/>

The ANZSBT is affiliated with the following societies:

- Thrombosis and Haemostasis Society of Australia and New Zealand <https://www.thanz.org.au/>
- Haematology Society of Australia and New Zealand (HSANZ) <http://www.hsanz.org.au/>
- British Blood Transfusion Society (BBTS) <http://www.bbts.org.uk/>
- International Society of Blood Transfusion (ISBT) <https://www.isbtweb.org/>

ANZSBT Transfusion Practitioner Working Group

In 2011, those working in transfusion nursing formed the Transfusion Professionals Network (TP Network) special interest group under the auspices of the ANZSBT.

At the end of 2023, the ANZTP network reviewed its terms of reference to aligned with the terms of reference of ANZSBT. The network was reclassified as Transfusion Practitioners Working Group and has a leadership group that oversees the program of work for the group. This leadership group has representatives from all

Australian jurisdictions and New Zealand. The group reports to ANZSBT via the Clinical Practice Improvement Committee but has links with both the Education Standing Committee and the Transfusion Science Standing Committee.

For more information about the requirements to join the ANZSBT and affiliate with the ANZSBT TPWG are available at How to Join : ANZSBT <https://anzsbt.org.au/join-us/how-to-join/>

ANZSBT guidelines

ANZSBT guidelines <https://anzsbt.org.au/guidelines-standards/anzsbt-guidelines/> help inform transfusion practice.

The most frequently referred to are:

- Guidelines for the Administration of Blood Products
- Guidelines for the Prescription of Blood and Blood Products by Nurse Practitioners
- Guidelines for the Implementation and Use of Electronic Medical Records for Transfusion
- Prevention of Transfusion-Associated Graft-Versus-Host Disease (TA-GVHD)
- Guidelines for Transfusion and Immunohaematology Laboratory Practice

Resources - guidelines and standards

Additional resources to support your work are:

- Guideline for the propphylactic use of Rh D immunoglobulin in pregnancy care <https://www.blood.gov.au/guideline-prophylactic-use-rh-d-immunoglobulin-pregnancy-care>
- Updated recommendations for warfarin reversal in the setting of four-factor prothrombin complex concentrate) <https://www.thanz.org.au/wp-content/uploads/2024/11/Updated-recommendations-for-warfarin-reversal-in-the4F-PCC-guideline-update-Nov-2024.pdfl>
- Royal Children's Hospital Melbourne, <https://www.rch.org.au/bloodtrans/>
- Department of Health Victoria: Victorian health service's Emergency Blood Management Plan (EBMP) <https://www.health.vic.gov.au/publications/template-emergency-blood-management-plan>

International organisations

International Society of Blood Transfusion and Transfusion Practitioner forum

The International Society of Blood Transfusion (ISBT) was founded in 1935. Transfusion professionals from over one hundred countries across the globe come together and share knowledge on blood transfusion and how to improve the safety of blood transfusion worldwide.

The society has working parties promoting science, research, and best practice in their area of expertise across the transfusion chain. They have created an educational platform; the ISBT Academy with courses endorsed by ISBT <https://www.isbtweb.org/isbt-academy-support/endorsed-courses.html> and eLearning shop <https://www.isbtweb.org/shop.html>. Education offerings by ISBT includes webcasts of ISBT congress presentations and a library of transfusion guidelines.

In addition, the society:

- encourages and supports the ISBT Working Parties that focus on the study of specific topics.

- publish a scientific journal, Vox Sanguinis, and provide other high quality educational print and electronic material.
- organise international and regional congresses.
- support and participate in regional workshops, seminars, and congresses either financially or by use of the ISBT logo.
- support professionals from low and medium development index countries financially.

Membership information: <http://www.isbtweb.org/my-isbt/isbt-membership/>

Transfusion Practitioner (TP) Community

The Transfusion Practitioners (TP) community is a subgroup of the ISBT Clinical Transfusion working party. It was established to promote the role and value of TPs within the international blood sector. The groups' objectives are to develop educational tools and resources, create a network to promote knowledge sharing, research, and ideas, as well as function as an international forum for discussion.

With ISBT the TP subgroup has produced Transfusion Practitioners across the world podcasts <https://www.isbtweb.org/communities/transfusion-practitioners/transfusion-practitioners-podcast.html> covering topics that may be of interest.

ISBT members are encouraged to join one (or more) of the working parties <https://www.isbtweb.org/isbt-working-parties/join-a-working-party.html> in their area of interest.

Websites

The following organisations web sites may also provide useful information to inform your work.

- Association for the Advancement of Blood & Biotherapies (AABB) < https://www.aabb.org/home >
- British Society for Haematology <http://www.b-s-h.org.uk/>
- Canadian Society for Transfusion Medicine <https://www.transfusion.ca/Home>
- Serious Hazards of Transfusion (SHOT) http://www.shotuk.org/home/
- National Health Service Blood and Transplant (UK) <http://www.nhsbt.nhs.uk/>
- International Society of Blood Transfusion <http://www.isbtweb.org/>
- Ontario regional blood coordinating network (ORBCoN) <http://transfusionontario.org/en/>
- Ontario Nurse Transfusion Coordinators (ONTraC) <https://www.ontracprogram.com/Login.aspx?company=&ReturnUrl=%2fdefault.aspx>
- Network of Advancement of Patient Blood Management, Haemostasis and Thrombosis (NATA) <http://nataonline.com/>
- Transfusion Research - Public Health and Preventive Medicine < https://www.monash.edu/medicine/sphpm/units/transfusionresearch>

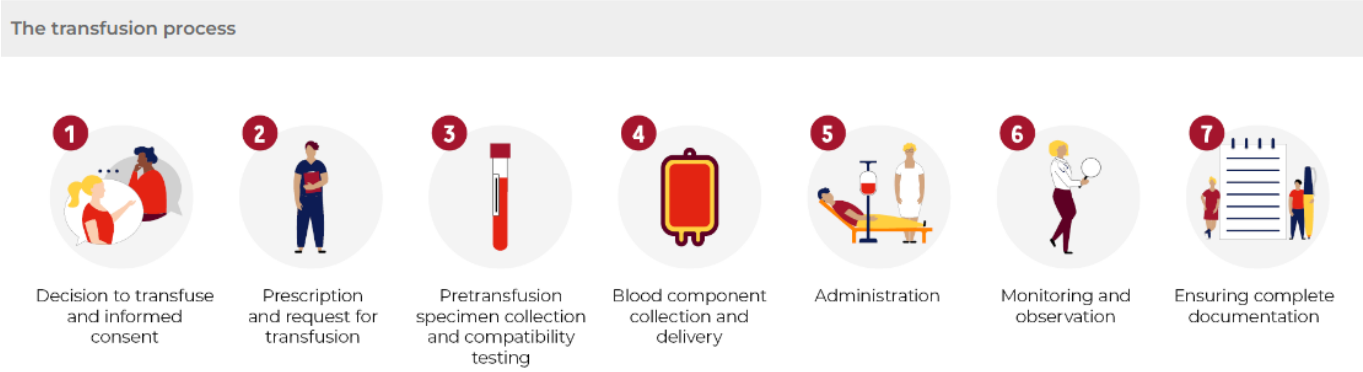
Transfusion journals

Commonly used transfusion related journals that may provide information for your work:

1. Transfusion
2. Vox Sanguinis
3. Transfusion and Apheresis Science

4. Transfusion Medicine
5. Transfusion Medicine Reviews
6. British Journal of Haematology
7. Haematological Journal of the European Haematology Association
8. Journal of Thrombosis and Haemostasis
9. Transfusion Alternatives in Transfusion Medicine
10. ISBT Science Series
11. Transfusion Today
12. Journal of Infusion Nursing

Steps in the transfusion process



Lifeblood, Transfusion Practitioner microcredential, The decision to transfuse and consent. Transfusion courses | Lifeblood <https://www.lifeblood.com.au/health-professionals/learn/transfusion-courses>

Step in the transfusion process	**Description of the transfusion process step**
Decision to transfuse and consent	The decision to transfuse is based on a thorough clinical assessment of the patient, not pathology results alone. Transfusion needs to align with current evidence-based guidelines. There are many resources to inform the decision to transfuse, see Resources. Informed consent for transfusion is obtained by the prescribing clinician, ideally from the patient, or the medical treatment decision maker if the patient is unable to consent prior to the transfusion unless in an emergency when it is not possible to obtain consent. It is important that information is provided in line with the patient or medical treatment decision maker's literacy level and in a way they can understand. An interpreter may be required. The reason, the proposed blood component(s) or product(s) type, risks, and benefits (and risk of not having the transfusion), any other blood management strategies and an opportunity to ask questions are provided to the patient by the prescribing clinician. Consumer information brochures should be used to support the consent process. Document the patient's consent or refusal of transfusion in their medical record.

	Information can be found at Office of the Public Advocate or Medical Treatment Planning and Decision Act 2016
Prescription and request for transfusion	The prescription is the written authorisation, used by the clinical staff to administer the blood component or product. The prescription must give a clear, legible instruction, avoiding abbreviations where possible. For manufactured products where there may be similar, but not necessarily interchangeable products, the needed product must be clear. The prescription must contain: • patient identification details: family name and given name, gender, date of birth (DOB) and unique patient identification number if available • date, timing, and urgency of the transfusion • appropriate and consistent terminology for the blood component or product to be administered • special blood component requirements or modifications required: for example, irradiated or cytomegalovirus (CMV) seronegative • the route of administration • the number of units or dose of blood component or product to be given, using appropriate units of measure (e.g. number of packs, volume in millilitres, units, or weight in grams); blood component volumes should be stated in millilitres for neonatal patients and children less than 20 kg. • the duration over which the blood component or product is to be administered • special instructions: for example, use of a blood warmer, or any medication required before or after the • transfusion • legibly written name and signature of the prescriber, and a contact telephone number or pager number • plasma-derived products and recombinant products should include the brand name (ANZSBT Guidelines for the Administration of Blood Products, 3rd edition, 2024) In some health services Nurse Practitioners may prescribe blood components/products. The ANZSBT Guideline for the prescription of blood and blood products by nurse practitioners <https://anzsbt.org.au/wp-content/uploads/2021/10/Guidelines-for-the-prescription-of-blood-and-blood-products-by-nurse-practitioners-FINAL-20211018.pdf> outlines the considerations for determining the need and assessing the competence for this extended scope of practice. The request for transfusion is the communication with the transfusion laboratory to perform pretransfusion testing (unless a current/valid group and screen specimen is already available) and/or component or product preparation to issue blood for administration. The request needs to be clear and include requirements as stated in the ANZSBT Guidelines for Transfusion and Immunohaematology Laboratory Practice 1st edition, revised 2020 (anzsbt.org.au) <https://anzsbt.org.au/wp-content/uploads/2021/04/Guideline_-

	for_Transfusion_and_Immunohaematology_Laboratory_Practice_FINAL_Published_20210426.pdf>.
Pretransfusion sample collection	Pretransfusion testing, includes the blood group and antibody screen, and the crossmatch. Blood Matters provides educational materials for safe sample collection and the prevention of wrong blood in tube errors. Positive patient identification is vital when collecting and labelling pretransfusion specimens. The ANZSBT Guidelines for Transfusion and Immunohaematology Laboratory Practice, 1st edition, revised 2020 (anzsbt.org.au) outline the required laboratory practices for blood banking specimens.
Blood collection and delivery	Collection of blood components and products for transfusion must be undertaken by trained staff. Blood components and products entered or removed from the temperature-controlled storage refrigerator must be documented in a paper-based or electronic register and include: • Component or product type, donation number, or batch number • Patient's identification details (full name, date of birth and medical record number) • Staff member's identification • Time and date blood component or product was entered or removed. This may occur by direct collection from the laboratory or via a secondary collection point, such as a blood fridge outside the laboratory or a validated pneumatic chute/tube system (PTS) (from the laboratory to a clinical area). It is important that collection processes are safe for all systems used. The person collecting the blood, should have documentation that clearly identifies the patient and component, or product required.
Administration	Blood administration must be undertaken according to local policy, which should align with the current ANZSBT Guidelines for the Administration of Blood Products. Policy should cover: • Positive patient identification processes • Venous access • Equipment and instructions on how to use • Infusion devices • Blood warmers • Concurrent fluids and medications • Location and timing of transfusion • Pretransfusion double independent checking procedure • Infusion rates and precautions • Duration of transfusion • Identification and management of transfusion related adverse event The pretransfusion double independent check of the patient identification and the component/product details is the last chance to make sure the right blood product/component is being transfused to the right patient. For further information refer to ANZSBT Guidelines for the Administration of Blood Products, 3rd edition (2024) <https://anzsbt.org.au/wp-

	content/uploads/2024/02/Guidelines-for-the-Administration-of-Blood-Products-revised-Feb-2024.pdf> **Double independent check** Two members of staff must independently undertake the identity check of the patient and blood component/product *at the patient's side immediately before administration*. Each of these two staff is responsible for the accuracy of the check and both must sign the relevant documentation confirming that the patient and component/product check has occurred, is correct and the component is compatible/suitable for the patient. The person spiking or hanging the blood component/product must be one of the two staff members who have independently undertaken the check. Two-person independent checking for safe transfusion poster < https://www.health.vic.gov.au/publications/two-person-independent-checking-for-safe-transfusion-poster >
Monitoring and observation	Patients receiving transfusions must be monitored for signs of potential transfusion related adverse event and staff are trained to recognise, respond, and report any adverse reactions. All observations must be recorded in the patient's health-care record and must comply with local policy. The ANZSBT Guidelines for the administration of blood products 3rd edition sets out the minimum observations required, • Temperature • Pulse • Blood Pressure • Respiratory rate Minimum time periods: Prior to commencement of the transfusion, 15 minutes after the transfusion has started (blood reaches the patient) and following the completion of the transfusion. However local policy may state more frequent observations are needed. Observations associated with transfusion should be clearly identified in the documentation.
Ensuring complete documentation	All aspects of transfusion require accurate, up-to-date, and complete documentation. This is essential for effective communication and patient care, including in the event of a transfusion related adverse transfusion.

Please refer to the ANZSBT guidelines <https://anzsbt.org.au/guidelines-standards/anzsbt-guidelines/> for detailed information on transfusion requirements. These requirement and guidelines are reflected in the Blood Management Standard | Australian Commission on Safety and Quality in Health Care< https://www.safetyandquality.gov.au/standards/nsqhs-standards/blood-management-standard>.

Blood component checklist

Below is an example of a blood component checklist, detailing the requirements for the patient and component/product checks.

The double independent checking procedure involves each qualified staff member checking the following details independently

ALL DETAILS MUST BE CORRECT AND IDENTICAL BEFORE THE UNIT IS ADMINISTERED TO THE PATIENT.

Where there is any discrepancy in information this MUST be resolved prior to the transfusion taking place.

1. Patient identification

What to check	Where to find it
Full name: first name, last name **Date of birth** **Medical record number (MRN)**	Ask the patient to state and spell full name and date of birth Check all three identifiers on: • Patient ID band • Compatibility label on the blood bag (and compatibility report if supplied) • Prescription (or medical order)

2. Blood group

What to check	Where to find it
ABO & RhD group of the patient **Patient blood group must be compatible with the blood group of the product**	• Compatibility label on the blood bag (and compatibility report if supplied) • May be found on the blood administration screen if using an EMR
ABO & RhD group of the component	• Compatibility label on the blood bag (and compatibility report if supplied) • Lifeblood label on the blood bag

3. Component details

What to check	Where to find it
Component type, e.g. red blood cells	• Prescription (medical order) • Compatibility label on the blood bag (and compatibility report if supplied) • Lifeblood label on the blood bag
Donation number	• Compatibility label on the blood bag (and compatibility report if supplied) • Lifeblood label on the blood bag
Expiry of product	• Compatibility label on the blood bag (and compatibility report if supplied) • Lifeblood label on the blood bag
Expiry of cross match	• Compatibility label on the blood bag (and compatibility report if supplied)
Pack integrity	• Pack is intact • Absence of clots, discolouration, or foreign bodies or any abnormality

One of the two staff performing the checks must then spike the blood bag and commence the transfusion, immediately after the checks have been completed.

In an emergency situation, blood component and patient checks still need to occur, but if using emergency group O RBC, patient details may not be attached to the component. The following are the items that still need to be checked prior to administering an emergency group O RBC if unnamed.

Emergency patient and blood component check:

Patient identity

- Always check for a patient identity on the blood component.
    - Is there a patient ID on the component? If the component has patient identification, follow patient ID checking procedure as above. Patient identification may include an unknown patient naming convention.
    - If no patient identification is present, proceed to blood group check

Blood group

- RBC
    - O RhD negative RBC are suitable to transfuse in an emergency to all patients with an unknown blood group
    - O RhD positive RBC are suitable to transfuse in an emergency to males > 18 years and females > 50 years with an unknown blood group
- Plasma (FFP and cryoprecipitate)
    - AB plasma is suitable to transfuse in an emergency to all patients with an unknown blood group
    - Group A (low titre anti-A/B) FFP may also be used
    - The RhD group is not relevant to transfusion of plasma

Donation number, expiry, and pack integrity

- Checking the donation number, expiry and pack integrity should be consistent with the double independent checking process as described above
- Donation number on the Lifeblood label must match the donation number on the compatibility label or emergency label (applied by the blood bank) on the bag (and compatibility report or similar if supplied)
- Expiry time and date of blood bag must be after the time and date the planned completed transfusion
- The component should be checked for leaks, clots, discolouration, or any other abnormality

The 30-minute 4-hour rule

The 30-minute 4-hour rule relates to RBC storage and administration. A unit of RBC can generally only be returned to controlled storage if it is less than 30 minutes since its removal. The maximum time allowed to transfuse a unit of RBC is 4-hours after removal from controlled storage (+ a maximum of 30 minutes delivery time).

A unit of RBC not commenced within 30-minutes of removal from controlled storage can be transfused to the intended patient if the unit is completed within 4-hours from removal from temperature-controlled storage.

What to do if the unit of RBC cannot be completed within the maximum time allowed:

- Contact the treating medical team and determine if the unit of RBC can be administered at a faster rate to allow completion within 4-hours.
- Commence the unit as per the prescription and discard any remaining product at 4-hours, ensuring the treating team are aware of the volume administered and discarded.

30-minute/4-hour rule factsheet <https://www.health.vic.gov.au/patient-care/prescribing-and-clinical-use-of-blood-and-blood>

Transfusion reactions and incidents

Lifeblood provides information on clinical reactions, causes, frequency, investigation, and management. Adverse events <https://www.lifeblood.com.au/health-professionals/clinical-practice/adverse-events>

The Lifeblood resource library can provide lanyard cards and posters detailing recognition and management of acute reactions. Resource library <https://www.lifeblood.com.au/health-professionals/learn/resource-library?query=transfusion%20reactions&category=All&filetype=All&sort_bef_combine=changed_1_DESC>

Please refer to the previous section on STIR for adverse transfusion event reporting.

A reaction may not meet the reportable criteria for STIR, but this does not mean it is not a transfusion related adverse event. All suspected reactions, including those not reported to STIR should be reported and investigated at the health service.

Reactions to fractionated products must be reported to the pharmaceutical company via their reporting mechanisms. These companies have a requirement to report all reactions to the Therapeutic Goods Administration (TGA) in Australia.

Certain types of transfusion related adverse event are reportable to Lifeblood. This includes transfusion transmitted bacterial infections (TTBI), transfusion related acute lung injury (TRALI), and transfusion-associated Graft-vs-Host disease (TAGVHD).

To receive this document in another format, email Blood Matters <bloodmatters@redcrossblood.org.au>

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