

## REFERENCES AND INTERNET LINKS - TRANSFUSION HISTORY

This section contains a variety of references of papers that are freely available via the Internet on the general topic of 'transfusion history'.

The papers listed for each of the websites identified below have been selected because of their general 'transfusion history' content. They are not intended to represent a comprehensive list. Copies of each of the papers listed can be accessed either directly via the website address given, or via the respective website using the reference given for the paper.

Note: Although it is recognised by the BBTS Historian that providing actual pdf copies of the papers listed below would make access easier for members, permissions and copyright issues do not make this possible. Members may however obtain access to pdf copies of these papers via the website links identified below for their own use.

If you are aware of any other information of this kind that is not listed below that you feel may be of interest to other members, I would be grateful if you would contact me with the details so that it can be included. Details of articles on transfusion history, published in past issues of BBTS Bloodlines, can be found in the 'Articles - BBTS Newsletters' section of this site.

Phil Learoyd  
BBTS Historian

## THE JOURNAL OF MEDICINE AND ALLIED SCIENCES (JHMAS)

[www.jhmas.oxfordjournals.org](http://www.jhmas.oxfordjournals.org)

This site contains a number of interesting papers on the general topic of 'the history of transfusion'. The above link takes you to *The Journal of Medicine and Allied Sciences* homepage, which contains a search facility that can obviously be used to search for general topic items (e.g. 'blood transfusion'). Copies of each of the papers listed below can be accessed via their 'archive' section (accessed from the JHMAS homepage) using the reference for each paper.

### BLOOD TRANSFUSION BETWEEN THE WARS

William H. Schneider

JHMAS 2003, 58, (2), 187-224

Abstract: This article examines the introduction of blood transfusion into general practice from the end of the First World War to the Second World War. Developments during most of this period were not the result of new discoveries but rather the spread of ideas and the establishment of donor organizations to secure an adequate blood supply. The identification, testing, and organization of potential donors were done in a wide variety of settings that reflected differences in political and cultural experiences. At the end of the 1930s, with war approaching, the resolution of problems with storage of blood and the discovery of new techniques for separating and storing plasma dramatically changed transfusion practice. Thus, the innovations of the Second World War were very much based on the development of broad donor organizations plus the new technical discoveries that had occurred during the interwar period.

### TAKING CREDIT: THE CANADIAN ARMY MEDICAL CORPS AND THE BRITISH CONVERSION TO BLOOD TRANSFUSION

Kim Pelis

JHMAS 2001, 56, (3), 238-277

This paper identifies the important role that Canadian medical staff played in influencing the use of blood transfusion during the First World War. It covers areas relating to the reintroduction of blood transfusion in the United States, the treatment of wound shock injuries and the effect of Canadian and US influences on the use and practice of blood transfusion in the First World War. The paper includes information about the roles of George Crile, Lawrence Bruce Robertson, Sir (later Lord) Berkeley Moynihan, Geoffrey Keynes and Edward Archibald (amongst many others). – PL

### HISTORY OF BLOOD TRANSFUSION

N.S.R. Maluf

JHMAS 1954, IX, (1), 59-107

The first part of this paper, 'The Use of Blood from Antiquity through the Eighteenth Century' provides information relating to the first transfusions, the roles of Lower and colleagues in England and of Denis and colleagues in France. The second part of the paper titled, 'Advances in the Nineteenth Century' includes extensive information about the work of Blundell, Gesellius, Ponfick, Landois and many others. The third section of the paper, 'Advances in the First Third of the Twentieth Century' obviously concentrates on Landsteiner but also includes a large amount of information about the techniques used for practical transfusion. The paper is lavishly illustrated throughout with numerous drawings and photographs. - PL

### SERUM AND THE SOLUVAC: THE AUSTRALIAN APPROACH TO WHOLE BLOOD SUBSTITUTES AND BLOOD TRANSFUSION DURING THE SECOND WORLD WAR

Mark W. Cortiula

JHMAS 1999, 54, (3), 413-418

Whilst initially giving an overview of transfusion in Europe between the First and Second World Wars, this paper concentrates on Australia's work in transfusion and the provision of serum (rather than plasma) as a transfusion product, together with an overview of the development of the Australian Blood Service after 1941, which includes the development and use of the Soluvac transfusion set system.

This paper provides an interesting insight into the development of the 'transfusion service' in Australia during the Second World War. - PL

## THE STORY OF A BLOOD TRANSFUSION TO A POPE

G.A. Lindeboom

JHMAS 1954, IX, (4) 455-459

This paper examines the evidence surrounding the 'transfusion' of Pope Innocent VIII in 1492. It provides not only an insight into the evidence surrounding this story but discusses what is most likely to have occurred, based on tracing different pieces of evidence back to its original sources as assessing its likely accuracy. The author discusses some of the translations of the original texts to form a conclusion about the 'transfusion'. A very well presented paper that discusses the evidence that supports the frequently quoted 'fact' that Pope Innocent VIII was the first person to be transfused with blood. - PL

## THE FIRST EXPERIMENTS ON TRANSFUSION IN FRANCE

Hebbel E. Hoff and Roger Guillemin

JHMAS 1963, XVIII, (2), 103-124

This paper looks at the published work of Colbert, Gavant, Perrault and others in France relating to experiments on (mainly) animal-to-animal transfusions and how this related to other published work (mainly in England). The paper includes a translation of an Académie Manuscript of 1667 'Observations on the transfusion of blood from one animal to another' – an interesting insight to thinking in the 1660's regarding transfusion. – PL

## HISTORY OF THE RHESUS BLOOD TYPES

Alexander S. Wiener

JHMAS 1952, VII, (4), 369-383

An "eye-witness" account of the discovery, history and clinical implications of Rh. Wiener provides an account of the discovery of ABO by Landsteiner and then recounts the discovery of the 'Rh factor' by "Landsteiner and I". He includes historical information relating to such issues as the production of anti-Rh sera, Rh blocking antibodies and Rh-Hr nomenclature. - PL

## ANNALS OF CLINICAL AND LABORATORY SCIENCE

[www.annclinlabsci.org](http://www.annclinlabsci.org)

Articles published in the journal *Annals of Clinical and Laboratory Science* can be accessed free of charge via the search facility within the site homepage that allows searching of the site via keywords, specific authors or references. I have found the paper listed below to be of interest – PL

## BLOOD TRANSFUSION FROM ANTIQUITY TO THE DISCOVERY OF THE Rh FACTOR

Steven I. Hajdu

Ann. Clin. Lab. Sci., 2003; 33: 471-473

As can be identified from the size of this paper (three pages) the topic area identified in the title of the paper is not covered in any great detail, however the paper does provide a brief overview to what are the 'established facts' regarding the history of transfusion - PL

## PUBLIC BROADCASTING SERVICE (PBS)

[www.pbs.org/wnet/redgold](http://www.pbs.org/wnet/redgold)

The PBS website has a *Red Gold* area about blood, which can be accessed directly via the above internet link. The *Red Gold – Epic History of Blood* site contains six

separate sections. The second is titled 'Blood History' which contains a timeline in five parts:

2500 BCE to 999 CE: 'Mirror of the soul'  
1000 CE to 1699 CE: 'Status quo under fire'  
1700 CE to 1919 CE: 'Discovery and exploration'  
1920 CE to 1949 CE: 'The impact of war'  
1950 CE to 2002 CE: 'New challenges'

The Red Gold area also has a section called 'Innovators and Pioneers' that lists people "who have changed the world of blood".

Note: this site is US orientated - PL.

## THE OXFORD DICTIONARY OF NATIONAL BIOGRAPHY

[www.oxforddnb.com](http://www.oxforddnb.com)

The site summary states that "this website is an illustrated collection of more than 57,000 specially written biographies of the men and women from around the world who shaped all aspects of Britain's past" and includes a number of the people involved in transfusion medicine. To search the site you will need either an Athens account or an ordinary library card. This site for example contains biography entries for such 'transfusion luminaries' as James Blundell, Ronald R. Race and Ruth A. Sanger, Walter Morgan, Janet M Vaughan and Winfred Watkins.

## MEDICAL HISTORY

[www.pubmedcentral.gov/tocrender.fcgi?action=archive&journal=228](http://www.pubmedcentral.gov/tocrender.fcgi?action=archive&journal=228)

Articles published in the journal *Medical History* can be accessed free of charge via the PubMed Central site or via the above internet link, which takes you directly to the archive area that contains a search facility. Copies of individual papers can be accessed using their reference.

## THE ORIGINS OF BLOOD TRANSFUSION: A REASSESSMENT

Charles Webster

Med. Hist., 1971, 15, (4), 387-392

This paper examines in detail the work of Francis Potter (1594-1678), Rector of Kilmington, Somerset, based on his correspondence with John Aubrey. Potter discussed the role and practice of transfusion and although it is in debate if he ever performed an actual transfusion experiment, the paper argues that Potter (made F.R.S. in 1663) should have a greater standing in the history of blood transfusion, equal to that of Lower and Denis. - PL

## BLOOD GROUP SEROLOGY: THE FIRST FOUR DECADES 1900-1939

A.D. Farr

Med. Hist., 1979, 23, (2), 215-226

Summary: Although blood transfusion had been practised spasmodically since the seventeenth century it was not until the discovery of the blood groups in 1900 that it became a potentially safe procedure, and pre-transfusion compatibility testing could be undertaken. Blood grouping and transfusion practice until the Second World War remained very primitive, however. Some of the techniques in use in the 1920s and 1930s are here described and discussed, and some of the specific laboratory problems which arose are considered in the light of present knowledge. In particular, the mystique which then surrounded blood group serology is explained in terms of the confusion aroused by the existence of

different nomenclatures for the ABO groups, and the lack of techniques for demonstration of (what are now known as) IgG antibodies. The reluctance of clinicians to use blood transfusion during this period is explained partly as a consequence of this limited serological understanding.

## THE FIRST BLOOD TRANSFUSION: FRENCH OR ENGLISH?

Michael T. Walton

Med. Hist., 1974, 18, (4), 360-364

This paper examines the claims and counter-claims of Richard Lower in England and Jean Denis in France regarding who performed the first transfusion between animals and the first animal to human transfusion, based not only on the dates of publication of their respective experiments but also on the correspondence between Henry Oldenburg (Secretary of the Royal Society) and Jean Denis. - PL

## YALE JOURNAL OF BIOLOGY AND MEDICINE

[www.ncbi.nlm.nih.gov/pmc/](http://www.ncbi.nlm.nih.gov/pmc/)

The *Yale Journal of Biology and Medicine* archive can be accessed via the *PubMed Central* (PMC) site, which is a free digital archive of biomedical and life science journal literature, i.e. open the 'T-Z' option of the 'Browse PMC Journals' tab and click on *The Yale Journal of Biology and Medicine* option. This opens the journal archive where copies of individual papers can be accessed using their reference.

## AN ACCOUNT OF THE EXPERIMENT OF TRANSFUSION, PRACTICED UPON A MAN IN LONDON 1667

Richard Lower

Yale J. Biol. Med., 2002, 75, (5-6), 293-297

This is a reprint of the original paper by Richard Lower from the *Philosophical Transaction of the Royal Society of London*, Number 30, pp. 557-567; December 9, 1667, that recounts the transfusion of Mr Arthur Coga by Dr. Richard Lower and Dr. Edmund King. - PL

## INTERNATIONAL SOCIETY FOR THE HISTORY OF ISLAMIC MEDICINE

[www.ishim.net](http://www.ishim.net)

This site contains a document called 'Blood Transfusion in History' by Dr Abdul Nasser Kaadan and Dr Mahmud Agrini, which can be accessed via the web link:

[www.ishim.net/Articles/Blood%20Transfusion%20in%20History.pdf](http://www.ishim.net/Articles/Blood%20Transfusion%20in%20History.pdf)

I was somewhat surprised to find that large parts of this document appear to be a direct 'cut and paste' version of a document referenced as follows: Learoyd P. 2006- A Short History of Blood Transfusion, NBS – Scientific and Technical Training, (STT)-042; 18 pages (i.e. an NHSBT internal training document!). The document on the ISHIM site contains a large number of photographs, referenced from other websites.

## US ARMY MEDICAL DEPARTMENT

[www.history.amedd.army.mil/booksdocs/wwii/blood/default.htm](http://www.history.amedd.army.mil/booksdocs/wwii/blood/default.htm)

The Office of Medical History of the US Army Medical Department site (web link above) has a document entitled 'Blood Programme in World War II' by a Brigadier General D.B. Kendrick. This document covers more than the title, listing twenty

chapters covering historical information from 'historical notes' to the Korean War, as well as containing a large number of photographs.

#### **WILEY-BLACKWELL ONLINE LIBRARY**

[www.wiley.com/bw/journal.asp?ref=0007-1048](http://www.wiley.com/bw/journal.asp?ref=0007-1048)

The above link takes you to the *Wiley-Blackwell British Journal of Haematology* site. Clicking on the 'View content on-line' option within the Journal Menu section on the left-hand side of the page takes you to the *Wiley Online Library* page that has a search option. Papers published in BJH can be accessed by using their reference (i.e. year, volume and page).

#### **THE HISTORY OF BLOOD TRANSFUSION**

Paul L.F. Giangrande

*British Journal of Haematology*, 2000, 110, 758-767

The introduction to this paper states that it concentrates principally on the 'early history of blood transfusion', but does in fact cover topics up to and including fractionated blood products and aspects of the development of a modern blood transfusion service. This is a well written, concise review article. - PL

#### **BRITISH MEDICAL JOURNAL**

[www.bmj.com/content](http://www.bmj.com/content)

The above link takes you to the *BMJ* site that provides a search facility as well as offering free registration enabling access to copies of papers published in older journals. Papers can be accessed by using their year of publication.

#### **MEDICAL HISTORY: TERCENTENARY OF BLOOD TRANSFUSION**

Sir Geoffrey Keynes

*British Medical Journal*, 1967, 4, 410-411 (Published 18<sup>th</sup> November 1967)

This short interesting paper concentrates on the 'claims for priority' regarding the first human transfusion between Jean Denis in Paris, France and Richard Lower / Edmund King in London, England. Keynes identifies that it should be justly claimed that the laurel for the first therapeutic transfusion on a human being should go to Paris. - PL

#### **FORGOTTEN TRANSFUSION HISTORY: JOHN LEACOCK OF BARBADOS**

P.J. Schmidt and A.G. Leacock

*British Medical Journal*, 2002, 325, 1485-1487 (Published 21<sup>st</sup> December 2002)

The paper identifies the role played by John Henry Leacock, a sugar planter's son from Barbados who graduated at Edinburgh, who was one of the first people to experiment with transfusing blood. In 1816 he reported systematic experiments in Edinburgh on dogs and cats that established that donor and recipient must be of the same species. Although he recommended inter-human transfusion for blood loss, he returned to Barbados without publishing further – PL.

#### **JOURNAL OF MEDICAL BIOGRAPHY**

<http://jmb.rsmjournals.com/>

This site offers the ability to browse the journal archive, but to obtain pdf copies of papers you will need an Athens account.

## JAMES BLUNDELL MD Edin FRCP (1790-1877): PIONEER OF BLOOD TRANSFUSION

M. Welk, P. Borg and H. Ellis

J Med Biogr, 2010; 18: 194-197

Abstract: James Blundell was an obstetrician, surgeon, physiologist and teacher. He is best known as the first to perform a successful human-to-human blood transfusion. However, he can also be accredited for significant advances in surgery and obstetrics. After a distinguished career at The United Hospitals of St Thomas and Guy's, he retired early and ended his years in relative obscurity.