NATIONAL BLOOD TRANSFUSION SERVICE

MEMORANDUM ON THE SELECTION, MEDICAL EXAMINATION AND CARE

OF BLOOD DONORS

SECTION I - SELECTION OF DONORS

1. Donors should be healthy persons of either sex over 18 years of age and under 65. As a general rule new donors should not be accepted after 60 years of age.

   The removal of 420-440ml of blood from such healthy persons has in general no deleterious effect on health or resistance to disease, and only temporary effect, rapidly recovered from, on the circulation.

2. Interval Between Donations. It is the policy of the service to maintain donor panels at a size which will permit an interval of 6 months.

3. The decision whether a person is fit to give blood rests finally with the doctor who is to collect the blood.

4. Hazardous Occupations. Arrangements for sessions at factories take account of the type of work being performed and where possible arrangements are made for staff whose work is hazardous to be bled at the end of their working day or shift.

   At all sessions special note should be taken by the Medical Officer of the occupation of the donor and hazardous hobbies as stated on NBTS 101 and advice should be offered about the timing of donation, e.g. in the case of civil air crew, a train or bus driver, heavy machinery or crane operator, and those climbing ladders or scaffolding. Hazardous hobbies include gliding, power flying, motor racing, climbing.

   Queen's Regulations for the Royal Air Force para. 900 (28.1.76) state that aircrew personnel, RAF or WRAF, whether trained or under training are ineligible to act as blood donors except in emergency. The donation of blood by aircrew will normally entail their removal from flying duties for seven days.

SECTION II MEDICAL EXAMINATION OF DONORS

Medical History

A donor is the best judge of whether he is in normal health and truthful answers to simple questions concerning his medical history and general health form a main part of the examination.

In practice the donor session clerk should specifically question the donor about the conditions listed on form NBTS 110A and request the donor's signature on form NBTS 110. In practice a simple method of recording any declared conditions is to note them in the "Medical History box" on NBTS 101, which should be initialled

or signed by the donor, or by the clerk if the donor's signature is not for some reason obtained.

Three categories of illnesses or conditions are listed on form NBTS 110A:-

1. Those which disqualify a person from acting as a donor, e.g. Cancer. (See copy of NBTS 110A attached).

2. Those which require referring to the Medical Officer for decision as to acceptance, deferral or rejection, e.g. Goitre. (See copy of NBTS 110A attached and Appendix).

3. Those which necessitate temporary deferment, e.g. pregnancy, contact with infectious disease, inoculations.

   Persons in the first and third category should, if they ask, be referred to the Medical Officer.

A suggested layout for the typed or printed notice 110A is attached. It can conveniently be on card or light board and covered to allow its repeated use. The typing or printing should be sufficiently large and clear to allow older donors to read it comfortably.

Conditions which necessitate temporary deferment are as follows:-

(i) Inoculations/Vaccinations	Interval before donor is bled
Smallpox vaccination* Primary Yellow Fever vaccination Rubella vaccination Tetanus antitoxin (A.T.S.)	Three weeks.
Poliomyelitis vaccination Cholera vaccination Vaccination against Rabies	Two weeks, providing donor feels well.
Diphtheria or Tetanus Toxoid (T.T.) Typhoid (T.A.B.) Anti-cold, Anti-influenza, etc.,	One week, providing donor feels well.

*In the case of a successful smallpox re-vaccination blood will be collected during the third to fourth week after vaccination for post-vaccinial plasma, and labelled accordingly.

(ii) Contact with infectious disease if donor has not already had the illness,	Incubation period, or if unknown, four weeks.
(iii) Intercurrent infection, e.g. tonsillitis, boils, infected skin conditions, etc;	Until cured.
(iv) Any major surgery or accident; (v) If transfused with blood or plasma within the last six months, or if volunteer has undergone tatooing, acupuncture, or earpiercing in the last six months;	Six months.

		Interval before donor is bled
(vi)	Dental extractions	One to seven days.
(vii)	Treatment with certain drugs, e.g. antibiotics, antihistamines, anti-depressants, (see end of Section II)	Until cured or until cessation of treatment.
(viii)	Pregnancy and post-partum (See Serum Donors, below).	One year following confinement.

On each subsequent occasion the donor should be shown the notice NBTS 110a of the above conditions and asked to sign form NBTS 110 to show that he has read it.

Serum Donors. In certain circumstances, e.g. to collect serum containing valuable antibodies, mothers may be bled before the recommended interval after confinement if shown by medical examination to be fit to give blood. Special arrangements for the donation should be made with the agreement of the attending Obstetrician if the interval is six weeks or less. Occasionally it might be wise to withdraw less than the usual amount of blood.

Donors, at sessions, whether male or female, whose serum or plasma is to be used only for laboratory purposes because it contains anti-Rh, anti-HLA, etc., should be submitted to the same routine as other donors, but because the blood is not going to be transfused some decisions, especially about temporary deferment, may be modified, e.g. treatment with certain tablets, or an attack of hay fever would not disqualify, etc.

Oral Contraceptives. Volunteers who are taking oral contraceptives are not debarred from giving blood. The progestogens are short-lived so that any amount that might be contained in blood from such donors could not have an effect lasting for more than a few hours at the most in the recipient.

Venereal Diseases. It is not customary to question donors about venereal disease. Information may, however, be volunteered. A person who is known to have, or to have had, syphilis is unacceptable as a donor (see European Pharmacopoeia Vol. 3, 1975). An accepted syphilis test shall be performed each time a donor is bled; donors whose blood reacts positively shall be excluded permanently from the donor panel.

Jaundice or Hepatitis. Individuals who give a history of jaundice or hepatitis or in whose blood anti-HB_sAg is present may be accepted as donors providing that they have not suffered from jaundice or hepatitis in the previous twelve months, have not been in house contact with hepatitis or received a transfusion of blood or blood products in the previous six months, and providing their blood gives a negative reaction for the presence of HB_sAg when tested by a sensitive method (R.P.H. or R.I.A.). An accepted test for hepatitis B surface antigen shall be performed each time a donor is bled; donors whose blood reacts positively shall be excluded permanently from the donor panel.

EXAMINATION OF THE DONOR

1. Haemoglobin Estimation. The haemoglobin should be determined each time the donor presents himself. Female donors with less than 12.5g haemoglobin per 100ml (85% Haldane) or male donors with less than 13.1g haemoglobin per

100ml (90% Haldane) should not be bled. The type of test is left to the discretion of the Regional Transfusion Directors, but the Phillips-Van-Slyke copper sulphate method (Reference: J.Biol. Chem. 1950-183-305), using a sample of blood obtained from the finger, is recommended for use as a screen test.

Donors whose haemoglobin is below the appropriate level should be informed that they are not fit to be bled at present. In these cases, if a screen test has been used it is recommended to take a venous sample of blood into sequestrene for an exact determination of the haemoglobin, microhaematocrit and red cell indices. If the results confirm the haemoglobin to be below the appropriate level the donor should be advised to consult his own doctor who should receive a report of the results.

2. (a) The medical history should be coupled with a careful assessment of the donor's appearance. The experienced doctor can detect at a glance the potentially unsuitable donor. Those of poor physique or who are underweight, the debilitated, the undernourished, the mentally unstable, and those bearing the obvious stigmata of disease should not be bled.

(b) The superficial medical examination (auscultation and percussion of the chest, pulse and blood pressure) is, in general, so incomplete and unrevealing that it is in most cases not of great value.

In some cases, particularly in middle-aged and older donors, examination of the pulse may reveal unsuspected defects of the cardiovascular system, which may be confirmed by measurement of the blood pressure. (See Appendix under Hypertension). While it is usually sufficient to rely on a normal medical history, general appearance, and haemoglobin level, it is advisable to examine the pulse and, if considered necessary, the blood pressure in these older donors.

Note: A complete medical examination, to include X-ray examination, electro-cardiogram, haematological examination, etc., is obviously impracticable. The above procedure, however, if skilfully used will lead to the rejection or deferment of donors unfit to be bled and it should be carried out meticulously. When in doubt it is better to reject or defer, and the Medical Officer should then see that an appropriate entry is made upon the donor's record card.

In general, only persons in normal health with a good medical history should be accepted as donors.

"INCIDENT LIST"

It may be found useful to keep a separate record at each donor session for use at the RTC. This should list conditions or circumstances which require decision at the Centre as to the fate of the donation but which, for various reasons, are not thought fit for permanent record on NBTS 101.

DONORS ON TREATMENT WITH DRUGS

Persons on antibiotics, antihistamines or anti-depressants should not give blood until treatment is completed (see page 3,(vii)). Likewise those on new or experimental drugs or on heavy dosage or mixtures of drugs should be deferred. Sometimes the taking of a drug stated by a donor might indicate an undeclared

illness e.g. epilepsy, and such a person would also be refused.

Apart from this, general guidance to Sessional Doctors is probably necessary. Directors should decide whether donors receiving any form of medical treatment should be deferred or whether discretion should be used. Occasionally a fit donor might declare medication e.g. Hormone Replacement Therapy (HRT) about the effects of which the doctor might be uncertain. The doctor might then decide to take a donation but note the treatment and the name of the donor's home doctor on the "Incident List" (see above) so that a decision could be taken at the RTC.

Illicit drug taking if admitted or suspected should debar.

SECTION III MEDICAL CARE OF DONORS

Apart from courteous and considerate treatment by all members of the blood collecting team, the donor's medical well-being should be assiduously watched by the medical officer and the members of the team while he is at a blood donor session.

The donor's medical well-being depends upon:-

(1) The use of carefully prepared sterile equipment.

(2) An immaculate technique of venepuncture. Sterilisation of the skin should be carried out by a well-tried method, such as described in MRC Memorandum No. 34, 1957, HMSO.

(3) Skilfully performed venepuncture preceded by the injection of a local anaesthetic. Normally not more that 420-440ml of blood should be withdrawn. No matter how skilled the doctor he will occasionally "miss" a vein. Further attempts should not be made without the donor's permission. It is usually not advisable to use the other arm, unless there is some special reason for making another attempt. In factories it is good policy never to use the other arm.

(4) The enforcement of a definite routine upon the donor during the resting period after withdrawal of blood. The resting period is of special significance in regard to the prevention of the "delayed faint" (see 5 below).

   (a) A donor attendant should assist the donor to the rest area, where he should lie recumbant (e.g. for 15 minutes) after which he should sit up for at least 5 minutes, making a total period of about 20 minutes.

   (b) During the rest period the donor should consume at least one cup of fluid and a few biscuits.

   (c) Before the donor leaves the site of venepuncture should be inspected. On occasion it is possible to forestall complaints from a donor by warning him, for example, that his arm will become bruised from a haematoma. A dressing should be placed over the site of venepuncture. The donor may be given tabs. ferrous sulphate 200 mg. sufficient for 7 days, if the medical officer considers this desirable. It is not intended that the practice of issuing iron tablets to all donors, which is customary in some regions, should cease.

(5) The immediate and considerate treatment of those who faint. A proportion of donors, variously estimated at 2-5%, faint. This is usually only a transient matter, quickly recovered from, but in a few instances prolonged and troublesome. The "delayed faint" is the potentially dangerous type, since the donor may be in the street or at work and it may be most important

to be able to demonstrate that the routine outlined in Section III, para 4(a), (b) and (c) was followed. Fainting is probably psychological in origin and cannot be forecast by the most elaborate medical examination.

The importance of these measures and the reasons for them must be carefully impressed upon the lay members of the bleeding team. The reputation of the National Blood Transfusion Service and the readiness with which donors will volunteer depends largely upon the standard of medical care given to the donor.

SECTION IV DONORS: COMPLAINTS AND ACCIDENTS

The need for sympathetic, prompt and thorough investigation of all complaints made by the donors, no matter how trivial, is obvious. Complaints of a medical nature should invariably be investigated by a doctor. The following routine, which has proved of value in practice, is recommended.

1. Minor accidents and any untoward incidents occurring during a blood collecting session e.g. haematoma, fainting, damage to, or loss of, a donor's property should be noted at the time upon the donor's record card or donor session work sheet. The recording of apparently trivial incidents has, in practice, proved of value as long as two years later.

2. Serious incidents or accidents during blood collecting sessions or complaints made direct to the Regional Transfusion Centre should be fully recorded in a book kept for the purpose together with full notes of the investigation made.

   An analysis of complaints and accidents should be made annually at each RTC. The following headings have proved useful:-

   Haematoma, cellulitis, thrombosis, accidents due to fainting, dermatitis, unclassified, total: ratio to total number of donors bled: number of accidents serious enough to merit financial compensation, together with, if available, the amount of compensation paid.

DECEMBER 1972

APPENDIX TO THE MEMORANDUM ON SELECTION MEDICAL EXAMINATION AND CARE OF

BLOOD DONORS

CONTENTS

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1. NOTES ON CERTAIN DISEASES

(i) ALLERGY

Persons who give a history of frequent severe allergic manifestations should not be accepted as donors, otherwise donors need only be rejected if they are suffering from an allergic attack when they present themselves.

(ii) ANAEMIA

If a donor has failed the screen test on two or three occasions it is probably advisable to delay further donation for an extended period.

A donor who is well but who gives a history of any familial red cell or haemoglobin abnormality should be temporarily deferred so that with his consent his family doctor can be approached for information. A donor who declares a carrier state of haemophilia or allied disorder may be accepted after similar enquiries from the family doctor, but their donation would not be used for the preparation of cryoprecipitate.

(iii) EPILEPSY

Some patients with epilepsy react to minor stress by having fits and it is important that additional risks should be avoided. A person on regular medication for epilepsy should not be accepted as a donor. An epileptic who is no longer on regular anticonvulsant treatment and who has not been subject to fits for a period of three years may be accepted as a donor, but it should be added that a fit is difficult to deal with during a busy session and can be upsetting to other donors.

(iv) HYPERTENSION

A hypertensive whether under treatment or not should not be bled because of the possible complications which may follow the sudden lowering of arterial tension caused by the withdrawal of blood. If a person's doctor feels that a hypertensive should be bled for the relief of symptoms, this should be done in hospital where complications, should they occur, can be dealt with more satisfactorily than at a donor session.

(v) TOXOPLASMOSIS

It is not practicable to test for the presence of toxoplasma as a routine and it is not known whether the blood of persons recently ill from toxoplasmosis is infective. It would seem wise not to accept blood from volunteers with a known history of toxoplasmosis until a year has elapsed from the complement fixation test becoming negative. A donor who presents giving this history should therefore be deferred until the appropriate tests or investigations have been arranged through the Regional Transfusion Centre.

(vi) TUBERCULOSIS

Any donor under treatment or regular surveillance for tuberculosis should not be accepted. For other donors with a history of tuberculosis it is advisable to seek information with the donor's consent, from their family doctor after which a decision can be made. Where the history is of a short illness perhaps many years previously, and no further checking advised it is probably safe to accept the donor.

2. INFECTIOUS DISEASES AND PLASMA FOR IMMUNOGLOBULIN

(i) Inoculations and Vaccinations

A dangerously high haemolysin titre may follow the injection of diphtheria or tetanus toxoid, diphtheria or tetanus antitoxin or T.A.B. vaccine, because these agents sometimes contain blood group substance A. An interval of 3 weeks should elapse between injections of diphtheria and tetanus antitoxin and blood donation to allow elimination of the foreign (horse) protein from the donor's circulation and thus avoid the risk of sensitizing the recipient.

(ii) Plasma for Immunoglobulin

(a) Convalescence from infectious disease

Plasma from donors who have recovered within the previous three months from any of the following infectious diseases:

CHICKENPOX, HERPES ZOSTER, HERPES SIMPLEX, MEASLES, MUMPS, RUBELLA.

(b) After Active Immunisation

i. Plasma from individuals who have completed, within the previous 21-28 days, a course of active immunisation against tetanus or which has been shown by a screening method to contain an adequate titre of tetanus antitoxin.

ii. Plasma from individuals who have been successfully re-vaccinated against smallpox within the previous 3-4 weeks or which is shown by a screening method to contain an adequate titre of anti-vaccinia antibody.

iii. Plasma from individuals 2-3 weeks after the last (third) injection of a primary immunisation course against rabies or the same period after a re-inforcing dose of rabies vaccine. For categories of individuals eligible for immunisation against rabies see Health Circular HC(77)29, para 1, August 1977.

In each case the plasma should be separated from the red cells, immediately appropriately labelled, frozen and sent to Blood Products Laboratory.

3. TROPICAL DISEASES

Donors should be asked if they have visited places abroad (other than in the Mediterranean littoral or N. America) or recently lived in such places. The most important disease to bear in mind when considering the fitness of such donors is malaria because of its world wide incidence; but certain other tropical diseases must also be considered before accepting, deferring or rejecting such donors.

The following notes give general guidance regarding the fitness of persons as donors who have had certain tropical diseases or who have returned to the UK from certain tropical countries:-

(a) MALARIA

(i) The blood of those who have had malaria or who are natives of or who have lived until recently in endemic malarious areas (see end of Appendix) may be used only for preparing plasma fractions or freeze dried plasma.

(ii) The blood of UK residents, born in UK and normally resident there, who have visited or passed through endemic malarious areas may be used as whole blood providing they have been back in UK for at least 8 weeks, have had no feverish illness since returning and have taken anti-malaria drugs for one month after return. If there is any doubt blood from such donors should be used only for preparing plasma fractions or freeze dried plasma.

(b) TRYPANOSOMIASIS

The blood of persons who have resided in endemic areas should be used only for preparing plasma.

(c) SCHISTOSOMIASIS
YELLOW FEVER
DENGUE FEVER
RIFT VALLEY FEVER
SANDFLY FEVER
WEST NILE VIRUS FEVER
ARTHROPOD-BORNE ENCEPHALITIDES

A history of any of these diseases does not debar.

(d) RELAPSING FEVER

Persons may be accepted as donors 2 years after recovery from the disease.

(e) AMOEBIC DYSENTRY

If adequately treated does not debar.

(f) PYREXIA OF UNKNOWN ORIGIN IN PERSONS WHO HAVE VISITED THE TROPICS

The possibility has to be kept in mind that pyrexias might result from infection with the causative agent of LASSA FEVER or other dangerous viruses. In view of this blood or blood products from such persons should not be used until 3 months have elapsed following resolution of the pyrexia.

GENERAL

Persons returning from Africa should not be used as donors until 12 clear weeks after arriving in the UK. The diseases in (c) above, for example, may take the form of a short-lived viraemia, without specific clinical symptoms. Persons harbouring any of these viruses will automatically be excluded during the potentially dangerous period by adopting this 12 week period of "quarantine". (See also NBTS 110A, attached).

- LIST OF ENDEMIC MALARIOUS AREAS

Central and northern South America,
Tropical Africa, Nile Valley, Tunis, Algeria, Morocco, Malagasy,
Parts of Middle East,
Littoral of Arabian Peninsular, Iran,
Pakistan and Central Indian Sub-continent,
SE Asia, excluding Hong Kong and Macao,
East Indies.

(List based on W.H.O. Epidemiological Assessment of Status of Malaria, December 1975).

DECEMBER 1977

NBTS 110A
(Rev. 1977)

TO BLOOD DONORS

If you have recently been in contact with a case of infectious disease or had any inoculations or vaccinations, please tell the clerk.

If you have suffered from any of the following illnesses you are not eligible to become a donor,

BRUCELLOSIS (Malta fever, Undulant fever)
DIABETES
HEART DISEASE
HYPERTENSION
STROKE
CANCER
FILARIASIS
KALA-AZAR
LEPTOSPIROSIS
YAWS

If you have had any of the following conditions, please declare this and a decision will be made in your individual case by the Doctor.

ALLERGY (Hay fever, food sensitivity, hives, asthma, etc.,)
ANAEMIA
EPILEPSY
GLANDULAR FEVER (Infectious mononucleosis) in the last 2 years
GOITRE (Thyroid disease)
JAUNDICE or HEPATITIS (in the last year or contact with a case within 6 months)
KIDNEY DISEASE
TOXOPLASMOSIS
TUBERCULOSIS
TROPICAL DISEASES - MALARIA, TRYPANOSOMIASIS, SCHISTOSOMIASIS (Bilharzia)

Because of LASSA FEVER and other serious infections, have you been in AFRICA within the last 12 weeks?

If you have had Mumps, Measles, German Measles, Chickenpox, Shingles, or Herpes Simplex recently, or if you have recently been immunised against tetanus, smallpox or rabies your blood could be valuable to prepare a special protective injection against these illnesses. Please tell the clerk.

PLEASE STATE IF YOU HAVE ANY ILLNESS AT PRESENT OR ARE
RECEIVING TREATMENT, OR HAVE BEEN ABROAD.

PRINTER'S NOTE:

/ Note: The names of diseases (other than in brackets) and the last complete sentence to be printed in red type. /

NBTS 109
(Rev. 1977)

Surname (Block Caps) (Nee)	Fore Names Mr. Mrs. Miss	Time Available	A.B.O. Group
Address Telephone No. Postal Code		Date of Birth Birth Place	Rh. Factor
Civilian Occupation	Firm's Name Address Telephone No.	Dept & Clock No.	Other Groups
Medical History* *Donors must be asked whether they have ever suffered from the following conditions: *Allergy, Anaemia, Brucellosis (Undulant Fever), Cancer, Diabetes, Epilepsy, Goitre, Heart Disease, High Blood Pressure, Jaundice, Kidney Disease, Stroke, Tuberculosis, Tropical Diseases (esp. Malaria).* Signature.....			Centre

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NBTS 110

SESSION AT _____ DATE _____

TO BLOOD DONORS

PLEASE SIGN BELOW TO SHOW YOU HAVE READ THE ACCOMPANYING NOTICE NBTS 110A.

1	14	27	40
2	15	28	41
3	16	29	42
4	17	30	43
5	18	31	44
6	19	32	45
7	20	33	46
8	21	34	47
9	22	35	48
10	23	36	49
11	24	37	50
12	25	38	51
13	26	39	52