Joint UKBTS / NIBSC Professional Advisory Committee ([1])

Position Statement No 10.

Blood donor selection to minimise risk of transfusion transmissible infectious agents entering the blood supply

Published 3rd May 2007

Prepared by: JPAC: endorsed by MSBTO January 2007

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The highest priority of the United Kingdom Blood Transfusion Services (UKBTS) is to ensure that blood provided for patients who need a transfusion is safe. The UK adopts a highly precautionary approach to blood safety. The guiding principle is that if the best available evidence shows that there are reasonable grounds to believe that a course of action will improve the safety of blood, this action should be taken. Decisions must, however, recognise the need for an adequate supply of blood to meet patients' essential needs.

The rules for blood donor selection have developed with scientific and medical knowledge. New selection rules to protect the blood supply from AIDS were first formulated early in the 1980's, based on the best evidence then available. The tests for HIV, Hepatitis B and C and HTLV have been regularly improved through scientific and technological advances.

The current donor selection rules are a precaution not only against the infections that are tested for in every blood donation, but also against other infectious agents, known or unknown, that could be transmitted by blood and other body fluids.

UKBTS donor selection rules, in common with those of many other countries, permanently bar from blood donation any individual who has ever injected drugs, accepted payment (in money or drugs) for sex, or who has ever had anal or oral sex with another man, even if safe sex methods were used. A temporary (1 year) bar on donation is applied to individuals who report a potential exposure to infection that is stated to be no longer ongoing and unlikely to be resumed.

UKBTS has analysed the data on infections detected in blood donors over the period 1995-2006. HIV infections that have been detected in blood donors in the UK are most often sexually transmitted. Hepatitis B infection in blood donors in the UK is predominantly related to place of birth or parents' birth, since the infection is very widespread in some countries, while Hepatitis C is mainly associated with injecting drug misuse

Re-attending donors provide about 80% of all donations in the UK. The following refers to HIV infections that have been detected in donors who re-attend having previously donated with negative HIV tests. An infection such as HIV detected in such a donor must have occurred shortly before, or at some time following the earlier donation and could be impossible to detect, since even the most advanced blood tests cannot detect a recent infection until some weeks have elapsed. Furthermore, the fact that an individual has recently become infected is evidence that he or she has been exposed to some risk during the period between the two donor attendances and may not have been permitted to donate had that risk been declared before donation.

Among re-attending donors, during the period October 1995 to June 2006 (table 1), a substantial proportion (48) of the 116 individuals found to have HIV infection were males

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who, despite attending and being accepted for donation, stated in a subsequent clinical interview that they had had male-to-male sex.

Males constitute about 50% of donors. Research carried out in the UK during 2000 indicated that about 6% of males have had a homosexual experience during their lifetime, but that half of these may have had only a single homosexual experience often many years ago. It may be that a relatively small number of male donors accounts for a disproportionately large number of new HIV infections detected among donors.

In all but two of the other 68 re-attending donors who were found to have become HIV positive the risk factor identified was heterosexual sex. However, only a minority of these donors (14/68) reported sexual contact with a partner in one of the categories identified by the donor selection rules as requiring a 1 year deferral. For the remaining donors (44/68) there is no information recorded to indicate that the sexual partner was exposed to increased risk of HIV infection.

Critics of donor selection rules express concern that the permanent bar on MSM is inequitable when compared with the 1year deferral on individuals who report sexual contacts in sub-Saharan Africa or other countries with a high prevalence of HIV infection. The observed facts are that over 40% of re-attending donors found to have HIV infection report male to male sex. For most donors who are not men who have sex with men (MSM) and who are found to have acquired HIV, the only route of exposure that can be identified is heterosexual contact with a person who is not recorded as having any identifiable HIV risk factor. It has not been possible to identify criteria that could identify persons more likely to have been infected and that could be incorporated into the routine assessment of every donor at every attendance.

It has been estimated that a change in rules to permit men who have sex with men to donate, provided a number of years has elapsed since the last sexual encounter, would lead to only a minimal increase in the risk of an infectious donation entering the blood supply. However, the MSBTO continues to take the view that in the absence of evidence about the effects of such a change on donors' compliance with the selection rules, a relaxation in the current precautionary approach is not appropriate.

New research will be commissioned to learn more about the possible effects of changes to the current donor acceptance rules, in the hope that the findings could help in designing modified donor acceptance rules that could admit more individuals as donors.

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Table 1

UK donors positive for markers of HIV, HBV, HCV, HTLV and syphilis infections with a known probable exposure from October 1995 to June 2006

	HIV		HBV		HCV		TP		HTLV		vCJD	
All donors	E&W	Scot	E&W	Scot	E&W	Scot	E&W	Scot	E&W	Scot	E&W	Scot
Total - from ALL donors	**235**	**12**	**518**	**8**	**1243**	**147**	**245**	**9**	**78**	**0**		
Plasma derivatives	0	0	0	0	1	0	0	0	0	0		
Blood/tissue transplant	0	0	20	2	172	31	5	0	10	0		
Unsafe medical procedures	0	0	0	0	34	0	0	0	1	0		
Acupuncture/ body piercing	0	0	70	6	259	28	3	0	1	0		
Mother to Infant	0	0	49	0	4	0	16	0	7	0		
Injecting Drug Use	4	0	5	0	420	50	0	0	0	0		
Non Injecting Drug Use	0	0	0	0	42	0	0	0	0	0		
Occupational Exposure	0	0	28	0	51	8	0	0	0	0		
Family Household Contact	2	0	22	0	7	0	0	0	0	0		
Other Blood Contact	0	0	7	0	42	1	0	0	1	0		
Born in/to parents from an endemic country*	0	0	230	0	18	0	34	0	31	0		
All donors - sexual contact total	**229**	**12**	**87**	**0**	**193**	**29**	**187**	**9**	**27**	**0**		
Homosexual - any report	72	9	6	0	3	0	10	1	1	0		
Heterosexual sex UK** (vaginal/anal)	73	2	25	0	72	1	62	5	19	0		
Heterosexual sex partner from SSAfrica	30	0	13	0	4	0	19	0	1	0		
Heterosexual with bisexual contact	6	0	0	0	3	0	0	0	0	0		
Heterosexual sex worker	0	0	0	0	1	0	1	0	0	0		
Heterosexual sex with a sex worker	3	0	3	0	2	0	4	0	0	0		
Heterosexual sex abroad (excl. SSA, inc. Europe)	18	0	17	0	6	0	34	0	4	0		
Heterosexual sex with an IDU	5	0	2	0	93	24	2	0	2	0		
Heterosexual (no further information)	22	1	21	0	9	4	55	3	0	0		
Repeat donors total	**109**	**7**	**50**	**2**	**86**	**54**	**100**	**5**	**1**	**0**		
Plasma derivatives	0	0	0	0	0	0	0	0	0	0		
Blood/tissue transplant	0	0	0	1	9	12	1	0	0	0		
Unsafe medical procedures	0	0	1	0	1	0	0	0	0	0		
Acupuncture/ body piercing	0	0	9	1	26	8	0	0	0	0		
Mother to Infant	0	0	2	0	0	0	7	0	0	0		
Injecting Drug Use	1	0	1	0	20	22	0	0	0	0		
Non Injecting Drug Use	0	0	0	0	2	0	0	0	0	0		
Occupational Exposure	0	0	7	0	5	4	0	0	0	0		
Family Household Contact	1	0	2	0	1	0	0	0	0	0		
Other Blood Contact	0	0	1	0	7	1	0	0	0	0		
Born in/to parents from an endemic country*	0	0	3	0	0	0	9	0	0	0		
Repeat donors - sexual contact exposure total	**107**	**7**	**24**	**0**	**15**	**7**	**83**	**5**	**1**	**0**		
Homosexual - any report	44	4	0	0	1	0	4	1	0	0		
Heterosexual sex UK** (vaginal/anal)	34	2	9	0	3	0	31	2	1	0		
Heterosexual sex partner from SSAfrica	6	0	3	0	0	0	4	0	0	0		
Heterosexual with bisexual contact	1	0	0	0	0	0	0	0	0	0		
Heterosexual sex worker	0	0	0	0	0	0	0	0	0	0		
Heterosexual sex with a sex worker	1	0	0	0	0	0	6	0	0	0		
Heterosexual sex abroad (excl. SSA, inc. Europe)	5	0	7	0	1	0	14	0	0	0		
Heterosexual sex with an IDU	1	0	0	0	9	7	0	0	0	0		
Heterosexual (no further information)	15	1	5	0	1	0	24	2	0	0		

*Data on infected donors indentified in Scotland were available from 1998 to 2005

** partner not known to be high risk

([1]) **Joint** **U**nited **K**ingdom **B**lood **T**ransfusion **S**ervices and **N**ational **I**nstitute for **B**iological **S**tandards and **C**ontrol **Professional Advisory Committee**