

Fact Sheet

Private cord blood banking

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This fact sheet deals principally with Private Cord Blood Banking although other models of cord blood banking are briefly described.

What is Umbilical Cord Blood?

Umbilical cord blood is the blood that remains in the umbilical cord and placenta when the cord is clamped after the birth of the baby.

What is Umbilical Cord Blood Banking?

Cord blood banking is the collection and long-term storage of cord and placental blood for possible future use.

- to treat some serious medical conditions it is necessary to destroy a person's bone marrow or other immune cells and replace them with new, healthy, haematopoietic stem cells (HSC) which have come from bone marrow or blood. This is known as HSC Transplantation (HSCT)
- umbilical cord blood is a rich source of stem cells and can be used in such treatments
- these cells can be frozen and stored for use at some time in the future; they keep for years.

Three broad groups of cord blood banking exist:

Public Cord Blood Donation:

- some city hospitals are selected by the government as centres where donations of cord blood can be made to the public Sydney Cord Blood Bank for use by any person who may need it in the future. The option to donate cord blood for public use is not currently available to women who birth at Westmead, Blacktown and Auburn Hospitals

Family Cord Blood Donation:

- where a family member with a close genetic match to the baby (eg brother or sister) needs almost immediate treatment with cord blood cells (eg has leukemia), cord blood collection may be undertaken for possible donation to this family member. Such a collection can only be arranged via the Sydney Children's Hospitals Network Bone Marrow Transplant Unit and involves close consultation between the family and all the medical teams involved.

Private Cord Blood Banking

- is the collection of umbilical cord blood at birth for possible use at some time in the future by the child or a closely related family member in the situation where there is no current family member in need of such therapy. Private cord blood banking is arranged with a private company and paid for by the family directly to this company. Public health authorities allow patients to have this service provided by the private company within the public health system but do not allow public hospital staff to be involved in the blood collection.

What are the possible benefits of Private Cord Blood Banking?

- it is possible that the stored cord blood stem cells may be needed at some time in the future
by the child herself/himself
by a relative who has a close genetic match to the child
- an identical or close genetic match increases the chance that such stem cell transplantation treatment will be successful. Large public bone marrow transplant banks also provide stem cells for use by the general population but it may not always be possible to obtain a perfect match for transplantation.



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What are the potential negatives of Private Cord Blood Banking?

The likelihood that the stored cord blood stem cells will be used in the future is low

- it is currently estimated that 1 in 2500 or fewer of samples collected will ever be used by the child whose blood is stored
- it is possible that other family members who develop serious illness may wish to use the stored stem cells but the volume available is likely to be insufficient for relatives other than children and there may also be concerns about the underlying genetic basis of some diseases (see next)

The risk associated with giving the stored stem cells back

- many medical conditions, including leukemia or immunity disorders, possibly have a genetic basis. Therefore using the child's own stored stem cells to treat such conditions would generally not be recommended as it might make the cancer or medical condition more likely to come back. Such a risk may or may not also apply to a close family member receiving the stem cells. The situations in which the stored blood would be suitable for use are therefore currently very few
- difficulties in obtaining an adequate volume of blood
- large volume, high quality, collections are needed if there is to be sufficient sample for use, especially for use later, when the child is a teenager. Studies suggest that only 10% of collected samples are large enough to treat a person weighing 80kg. Sometimes it may not be possible even to collect enough blood to treat a young child

- the largest volume of cord blood is obtained when collection occurs after the baby is born and the umbilical cord clamped but before the placenta delivers, that is, while the placenta is still inside the uterus

However, health authorities do not permit the cord blood to be collected until after the placenta is delivered so as not to complicate the birth or place any risk on the mother or baby. A lower volume of blood is obtained with this approach.

- the largest volume of cord blood is obtained when the umbilical cord is clamped early so that the blood remains in the placenta and cord rather than passing to the baby after birth

However, it is becoming common practice to delay clamping the umbilical cord to allow the blood in the placenta to pass to the baby as it is thought this is good for the baby. This significantly reduces the volume of blood available for collection.

Risk to mother and baby at the time of birth

- there may be increased risk to the mother or baby if staff are distracted by concerns about umbilical cord blood collection rather than focusing on mother and baby. While this is not likely, it could occur.

Contamination

- cord blood may not be able to be used if contamination occurs during collection. While this is uncommon, it can occur.

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How Do I Organise Private Cord Blood Banking If I Want To Have It?

- you need to arrange with (and pay) a private cord blood company to have the blood collected at the time of birth by a representative of the company and for the company to store the blood for you. You will need to notify the company when you will be having the baby (if known) or when your labour starts
- you need to sign the NSW Health (Government) Request and Release for Private Cord Blood Donation form which outlines your acceptance that the public hospital takes no responsibility for any loss, injury, damage or breach of contract that occurs directly or indirectly in connection with the collection, handling, transportation or storage of your cord blood by the private company. This document also outlines that whether or not the cord blood collection can actually go ahead on the day depends on the medical condition of you and your child as assessed by the medical practitioner or midwife directly looking after you.

Can I Sell My Cord Blood to Someone Who Needs It?

- no. According to the NSW Human Tissue Act 1983, you cannot trade or sell donated human tissue such as blood.

At the present time the role of private cord blood banking is unclear

At the present time, the majority of international medical organisations believe that there is not enough evidence of benefit to support the practice of private cord blood banking. That may change in the future.

Parents have the right to arrange for and pay a private company to collect cord blood at the time of the birth of their child

Public hospitals allow private companies to undertake cord blood collection but do not allow public health staff to be involved in the blood collection

Collection must not be allowed to interfere with the health care provided to the mother or baby in any way.

We welcome further feedback on this brochure as a way of continually improving our service.

Send your feedback to:

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