

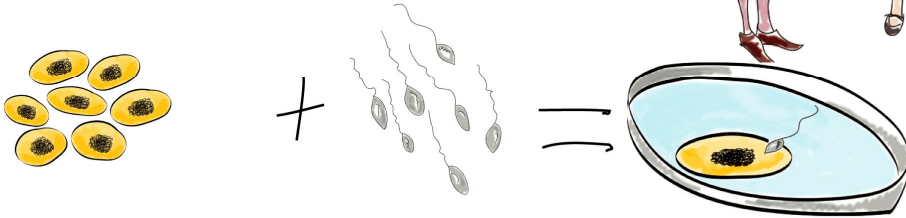
Saviour Siblings



WHEN A FAMILY HAS A CHILD WITH A LIFE-LIMITING CONDITION, THEY CAN CHOOSE TO "TISSUE MATCH" THEIR NEW CHILD TO HELP ITS SIBLING

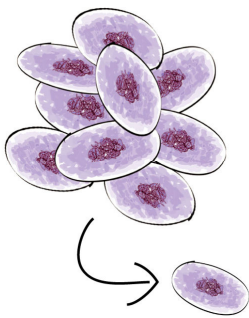


THEY GO TO AN IVF CLINIC...



... TO CONCEIVE THEIR BABY IN A LAB

AFTER 3-4 DAYS, THE EMBRYO WILL HAVE GROWN TO 64 CELLS. IT WOULD FIT ON THE HEAD OF A PIN



ONE CELL IS TESTED TO SEE IF THERE IS A TISSUE MATCH BETWEEN THE EMBRYO AND THE FAMILY'S SICK CHILD AND, IF NECESSARY, TO CHECK THAT THE EMBRYO IS FREE OF GENETIC DISORDERS

... IF THE EMBRYO IS A TISSUE MATCH IT CAN BE IMPLANTED IN ITS MOTHER, AND ALLOWED TO CONTINUE TO DEVELOP NATURALLY



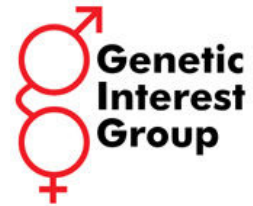
BLOOD FROM THE UMBILICAL CORD IS COLLECTED AFTER BIRTH AND CAN BE USED TO TREAT THE BABY'S SICK SIBLING

THE FAMILY NOW HAS TWO HEALTHY CHILDREN!

THIS PROCEDURE IS ONLY ALLOWED IF THERE IS NO MATCHING TISSUE DONOR IN THE FAMILY OR ON DONOR REGISTRIES

FURTHER INFORMATION IS AVAILABLE OVERLEAF →

Saviour Siblings



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- A handful of life-limiting conditions can now be treated using donated blood from umbilical cords (the link between a developing foetus and its placenta) or from bone marrow.
- The cord blood or bone marrow contains **stem cells** that can develop into the specialised cells normally found in blood, which have a variety of functions needed for a healthy life e.g. **red blood cells** transport oxygen around the body and different kinds of **white blood cells** are essential parts of our immune system.
- The conditions that can be treated with these donated stem cells are all caused by a problem with one of the blood cell types, such as aplastic anaemia and severe combined immune deficiency (SCID).
- If a matching donor can be found in a patient's family or on a bone marrow registry, this is the option that will be chosen for treatment of a patient. Unfortunately, **only 25% to 35% of patients have someone in their family who is a match**, and the chances of finding an unrelated matching donor is low and varies greatly with the ethnic origin of the patient.
- Therefore, an alternative is to use IVF and embryo selection to have a second child who is a match for the affected child, as illustrated overleaf. This type of embryo testing (to select a tissue match) is only carried out if no matching donor exists.
- This 'saviour sibling' approach is **tightly regulated by the HFEA** and the welfare of the resulting child is a critical element of their decision-making. As stated by the Department of Health: "Each application to the HFEA is considered on its own merits and the HFEA will grant a licence only where it is convinced that the child will be **a valued member of the family** and that tissue from the child is the only means of treating the older sibling."
- To date, licences have been granted to six families whose affected children have been cured of one of the following serious conditions: **aplastic anaemia**, **Diamond-Blackfan anaemia** and **beta thalassaemia**.
- The new HFE Bill recognises that in future other tissues from tissue matched siblings, such as cells from the umbilical cord itself, may be important for treating serious conditions, and it also explicitly allows for donation of bone marrow. The Bill outlaws tissue matching for whole organ donation. Licences for any saviour sibling procedure will continue to be considered on a case by case basis by the HFEA.

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