

INFORMATION FOR RECIPIENTS

Sperm Donor Screening



The purpose of this information sheet is to provide an overview of the medical and genetic screening performed in our sperm donor program. It includes information regarding known sperm donor arrangements, or arrangements where an identity release (IR) sperm donor is being used.

At Newlife IVF, all IR sperm donors have extensive medical and genetic screening. A summary of the screening performed is detailed below. For recipients using a known sperm donor, your donor will have extensive medical screening and some genetic screening tests. The additional genetic screening is highly recommended, but optional. If you would like further information about the additional screening, please contact our Genetics Team.

Please note that this is a general information sheet, and it is intended as a guide. We understand that everyone's circumstances are unique and one of our Genetic Counsellors can assist in exploring your specific situation if needed.

Medical screening:

- A comprehensive medical, family, and genetic history is taken by a Newlife IVF Fertility Specialist and a questionnaire.
- Tests for HIV, Syphilis, Hepatitis B & C, CMV, Gonorrhoea, Chlamydia, Blood Group and Antibodies, Full Blood Count, Haemoglobin Electrophoresis, Iron Studies, and Banded Karyotype.
- Semen analysis.
- Other tests may be ordered to assess the donor's health if indicated.

Quarantine:

- All medical screening occurs before the first sperm sample is produced.
- Following a quarantine of at least 3 months, all donors are re-screened for HIV, Syphilis, Hepatitis B & C, CMV, Gonorrhoea and Chlamydia, before their sample is released.

Genetic history:

All individuals considering sperm donation are questioned about the presence of multiple medical and genetic issues in their family and themselves, including, but not necessarily limited to:

Alpha-1 Anti-Trypsin Disease	Mucopolipidosis	Glaucoma Before Age 50
Bloom Syndrome	Muscular Dystrophy	Intellectual disability
Canavan Disease	Myotonic dystrophy	Motor Neuron Disease
Cardiomyopathy/ Arrhythmia	Neurofibromatosis	Cleft Lip and/or Cleft Palate
Chromosomal disorder	Nieman-Pick disease	Heart malformation in baby
Colour Blindness	Phenylketonuria (PKU)	Limb malformation in baby
Cystic Fibrosis (CF)	Polycystic Kidney Disease	Organ malformation in baby
Familial Dysautonomia	Sickle Cell Anaemia	Spina Bifida or other neural tube defect
Fragile X Syndrome	Spinal Muscular Atrophy (SMA)	Bipolar Disorder
Friedreich Ataxia	Tay-Sachs Disease	Prolonged Major Depressive disorder
Gaucher disease	Thalassaemia	Schizophrenia
Glycogen storage disease	Tuberous Sclerosis	Cancer before age 50
Haemochromatosis	Autism Spectrum Disorder (ASD)	Diabetes Type 1
Haemophilia	Blindness	Diabetes Type 2
Hereditary Thrombophilia	Creutzfeldt-Jacob Disease	Heart Attack before age 50
Huntington Disease	Epilepsy	Multiple Miscarriages (3+)
Marfan Syndrome	Deafness in childhood or young adult	Sudden unexplained death before age 50
Metabolic disorder	Dementia (Including Alzheimer's Disease)	



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Genetic screening:

- All sperm donors have a banded Karyotype to check for chromosome abnormalities and genetic screening for Haemoglobinopathies, such as Thalassemia.
- Additional screening for other genetic conditions is also performed for IR sperm donors.
- Additional screening for other genetic conditions is highly recommended for recipients using a known sperm donor; however, it is optional. Screening is ideally performed in the egg provider first, not the known sperm donor, so you can determine your risk for recessive and X-linked genetic conditions.
- This additional screening is called Genetic Carrier Screening (GCS). GCS is a type of genetic testing used to determine if a reproductive couple have a high risk or low risk of having a child affected by a genetic condition. It is not possible to screen for all possible genetic conditions.
- For IR donors, the type of GCS and number of conditions screened for varies, depending on when a donor was recruited and whether they are local or international donors. The specific screening performed on your selected IR sperm donor will be discussed with you by a member of the Newlife IVF Genetics Team.
- The type of screening may be:
 - Individual screening: where the conditions carried by each individual are identified. We need to ensure that donors and recipients are not carriers for the same condition.
 - Couple-based screening: where the conditions carried by each individual are NOT identified. The report will state the reproductive couple are at low risk for all conditions screened, or increased risk for one or more conditions.
- The number of conditions screened for may be:
 - Limited screening: Cystic Fibrosis, Spinal Muscular Atrophy
 - European Sperm Bank (ESB) limited screening: Cystic Fibrosis, Spinal Muscular Atrophy, Non-syndromic hearing loss and deafness, and Tay Sachs disease.
 - Expanded screening: many recessive genetic conditions (including all conditions on the limited and ESB panels). The number of genetic conditions a donor has been screened for can vary from 200-1000+, depending on the specific test performed and when the testing was done.
- Other tests may be ordered depending on the donors' ethnic background and other factors identified during medical screening.

Next steps:

- If you are using an **IR sperm donor** and are found to be a carrier for the same recessive genetic condition as your donor, then there is a high risk of having a child affected by the condition and you will be required to select another sperm donor.
- If you are using a **known sperm donor** and are found to be a carrier for the same recessive genetic condition as your donor, then there is a high risk of having a child affected by the condition. It would be generally recommended that you select another sperm donor, however, there may be options available for you to consider, that will be discussed with you by a Newlife IVF Genetic Counsellor.
- If you are a carrier for an X-linked genetic condition, there may be options available for you to consider, that will be discussed with you by a Newlife IVF Genetic Counsellor. The options may vary depending on whether you are using an IR sperm donor or known sperm donor.
- For more information about Genetic Carrier Screening, please see the Newlife IVF information sheet "GCS for all patients".
- If you would like to discuss any of this information further, please contact genetics@newlifeivf.com.au or your Fertility Specialist.

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Personal and family mental health history:

All sperm donors are asked about their own personal mental health history and family of origin mental health history. The variables that contribute to mental health conditions can be multifactorial and there are no specific single genes that have been identified to cause mental health conditions. Sometimes, people report a personal or family history of poor mental health, however, this may be due to many environmental factors such as trauma, poor attachments, substance use, and poor emotional regulation. In other situations, there is some evidence to suggest genetic factors play a role in predisposing people to poor mental health (such as schizophrenia).

To our knowledge, there have been no studies conducted that have investigated risk to offspring based on a donor's, or donor's family's mental health. There are many family studies that have demonstrated an increased risk to offspring where one or more parents have poor mental health, however in these studies, the children are being raised in the family environment of the parent. There is also very limited information we can ascertain from adoption literature on risk of mental health conditions in children who were adopted out. Similarly, we also need to consider the potential influence of the child's experiences of being adopted.

Newlife IVF carefully consider each donor's personal and family mental health history. Our genetics and counselling teams assess each donor's mental health history (if any). However, it is important to us that recipients understand that a true assessment of the risk of mental health conditions, to a donor conceived person, is difficult to quantify.

If you would like to discuss any of this information further, please contact genetics@newlifeivf.com.au or your Fertility Specialist.

