KNOWING YOUR GENETICS, THERE ARE SO MANY BENEFITS

Clot Risk Genes (1 in 20 people)

Factor V Leiden and Factor II Prothrombin gene changes have a 4-to 7-fold increased risk of deep vein thrombosis and pulmonary embolism. The combined contraceptive pill and HRT have increased clot risks so knowing you have a clot risk gene means you can make safer choices. For long-distance flights - simple blood thinning tablets.

Haemochromatosis (1 in 150 people)

Genetic recessive disorder causing iron overload, leading to cirrhosis, liver cancer & affecting the heart. With early diagnosis & regular blood removal- the condition will not affect your life expectancy. **Only 1 in 20 people with haemochromatosis know they have it.**

Familial Hypercholesterolemia FH (1 in 250 people)

FH results in very high levels of LDL - bad cholesterol, causing early heart attacks and strokes. Finding out means you can take highly effective medicines. **9/10 people are unaware that they carry these gene changes.**

Reassurances

Protection by the ABI Code of Insurance: insurance companies will not ask for your genetic test results, other than if you have a pre-existing condition with an associated gene in the UK.
We only test for genes which are "actionable" meaning you can do something positive. **We have five multi-skilled consultant geneticists.**
You can use a pseudonym - be anonymous.

Genetic Reproductive Options

Pre-Implantation Genetic Testing (PGT):
If the genetic condition is serious enough, you can stop it going through to the next generation by IVF & selecting embryos without the condition.

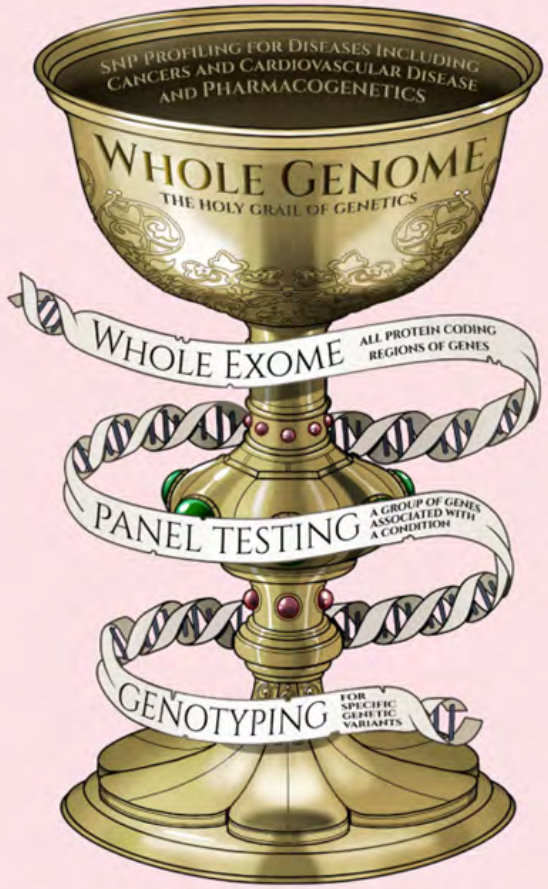
1 in 350 babies have a recessive disorder

Conditions can vary from Tay Sachs disease, typically fatal by ages 4-5 with progressive neurodegeneration, to cystic fibrosis (1 in 25 of us carry a change in this gene).
Genes come in pairs and for a recessive disorder to develop both parents must be carriers of the same recessive gene. If you have a carrier match we can then advise you about reproductive options.
There are over 2,000 recessive disorders.

CARRIER TESTING is available to all couples.

HOW TO BOOK A CONSULTATION

The London Genetics Centre
90 Sloane Street, London, SW1X 9PQ
0207 2355850
enquiries@tlgc.uk
www.thelondongeneticscentre.com



WOMEN'S HEALTH

THE LONDON GENETICS CENTRE

Our aim is to stop suffering and save lives

Genetic testing aims to drop overall cancer mortality by 1/5th - 1/7th
We find those at increased risk through two techniques: **Single Risk Genes and Polygenic Risk Scores**

Breast Cancer (1 in 8 women)

10% of cases are due to inherited gene changes, *eg. BRCA1, BRCA2 (1 in 277 to 1 in 381 carrier frequency; 1 in 40 with Ashkenazi Jewish ancestry),* & 10 other risk genes.

- **Earlier/more frequent breast screening**
- **Adjust lifestyle factors -** alcohol , weight, exercise, consider increase risk associated with HRT and oral contraception.
- **Preventive - 98% risk reduction risk-reducing** breast surgery for those at highest risk

Ovarian Cancer (1 in 50 women)

20% of cases caused by inherited gene changes eg. *BRCA1, BRCA2,* Lynch syndrome (9 ovarian cancer genes).

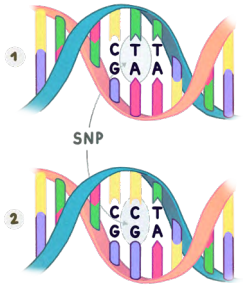
- **Preventive surgery reduces risk by 95%** for those with these gene changes.
- **Drop the overall ovarian cancer mortality by nearly 20%.** Screening does not reduce mortality.
- **Hormones -** oral contraception reduces the risk of ovarian cancer by 30-50%.

Bowel Cancer (1 in 18 women)

10% is due to inherited genetic changes, such as Lynch syndrome.

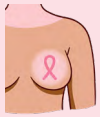
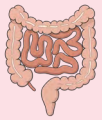
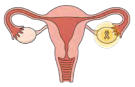
- **Colonoscopies** reduce the risk of bowel cancer mortality by 70% for 10 years after.
- **Medications -** Aspirin reduces the risk of bowel cancer in **Lynch syndrome** carriers by up to 50%.

Knowing you have Lynch syndrome improves mortality by 25% and can inform your relatives to take action to reduce risk.



WHAT IS A POLYGENIC RISK SCORE (PRS)

Polygenic risk scores (PRS) are a major separate way of predicting risk. We hope to save more lives using PRS risk stratification in addition to single risk gene testing.
A **SNP** is when the 4 organic bases **- C,T,G,A - swap,** as per the diagram. Scientists add up the known positions of these SNPs and their associated weight of increased risk to form a PRS. Common diseases available for such as prostate, breast, bowel and ovarian cancer, as well as non cancer hypertension, coronary artery disease risk, etc.

	Single Risk Genes	Polygenic Risk Scores	
	**BREAST CANCER (12 genes)** A *BRCA1* or *BRCA2* gene change confers up to an 80% lifetime risk of breast cancer.	**(higher risk stratum gives)** **3-fold risk**	The PRS includes 12 conditions in women, importantly **osteoporosis and early menopause risk.** **Informs on screening intervals and age of commencement.**
	**CARDIAC DISEASE (81 genes)** Cardiomyopathy, QT prolongation, familial hypercholesterolemia (FH). Aorta	**3-fold risk** **Coronary Artery Disease.** LDL Cholesterol, Hypertension PRS	**If know you have a high coronary disease PRS, take action and avoid having bypass surgery in your 50's.**
	**BOWEL CANCER (20 genes)** Lynch Syndrome confers up to a 50% lifetime risk of bowel cancer as well as uterine cancer in women. Polyposis syndromes include FAP and MAP.	**3.8-fold risk**	**FINDS those who need earlier and more frequent screening.**
	**OVARIAN CANCER (9 genes)** *BRCA1, BRCA2:* confers up to a 60% lifetime risk of ovarian cancer. Lynch syndrome: confers up to a 50% lifetime risk of uterine cancer & a 20% risk of ovarian cancer.	**2-fold risk**	**Ovarian PRS has a weaker effect whereas the higher-risk genes are more important.**
	**OSTEOPOROSIS**	**3-fold risk**	**Informs on DEXA scan and management strategies.**
	**PHARMACOGENOMICS (120+ drugs)** Pharmacogenes INFORMING YOU of how you will metabolise Clopidogrel, Codeine, Metoprolol, antidepressants and **hundreds of other medicines. Personalised adjusted genetic drug prescription is now the ideal.**		

Learn more about genetic testing pathways.

Learn more about our story here.