



**HREC 74465 - PreGen: Filling the Gap - Antenatal Genomics and Newborn Care:  
The Translational PreGen Consortium**

***March 2024***

**PreGen Inclusion Criteria**

**General Inclusion Criteria**

PreGen is limited to those families who will undergo genomic diagnostic testing as a family trio or where both the mother/egg donor and father/sperm donor are available for testing. Single parent families or those requiring a gene panel or singleton test may access prenatal genomic testing but cannot be included in the translational PreGen project.

PreGen will also accept:

- Families considering the option of termination if they fulfill other inclusion criteria
- Referrals from private practitioners if the patient/ family meets the inclusion criteria and a clinical geneticist or clinical genetic counsellor is involved in their care.
- Public referrals when alternatives for funded genomic testing (e.g. a clinically appropriate genomic panel) is available as a local alternative test.

**Eligible participants must also be able to:**

- Provide informed consent
- Be Medicare eligible

## OFFICIAL

### Testing in PreGen is limited to:

Families where the fetus is believed to be alive at the time of enrolment (preterminal imaging findings are exclusion criteria). Families must have clinical testing consent facilitated by a genetic service to be included in the PreGen study.

### Clinical Inclusion Criteria

A fetus with a structural anomaly likely to have a single gene germline aetiology. Some examples include (but are not limited to):

- A significant/ severe brain abnormality
- Bilateral ventriculomegaly over 12 mm
- A significant cardiac abnormality
- Renal anomalies with a likely Mendelian basis
- A phenotype consistent with skeletal dysplasia
- Evidence of multi-joint arthrogryposis
- Non-immune fetal hydrops
- Isolated NT of over 5mm
- Isolated agenesis of the corpus callosum or a significant abnormality of the corpus callosum

Significant isolated malformations (i.e., bilateral talipes, cleft lip/palate, or others) that usually occur in isolation may also be included if they have an early onset, are severe and/or combined with other ultrasound abnormalities.

Significantly abnormal biometry:

- Growth restriction (<3<sup>rd</sup> centile) without placental insufficiency

### Exclusion Criteria

- The family do not wish to take part in PreGen
- The process of termination of pregnancy has begun or the family have decided to have a termination of pregnancy no matter what is reported on genomic testing
- Likely non-genetic or undiscoverable aetiologies including teratogenesis, viral infections, and poorly controlled maternal diabetes.
- Recognised syndromes/ malformation complexes with no known gene associations (Pentalogy of Cantrell/ limb body wall complex/ cloacal anomalies/ field defects)
- Prior gene sequencing, gene panels, WES or WGS testing

Anomalies with a low diagnostic yield including

- Apparently isolated anatomical cardiovascular defect with minimal implications for postnatal clinical care (such as ASD, VSD, PDA)
- Isolated mild unilateral or bilateral ventriculomegaly without other cerebral malformations

Inclusion criteria when unclear will be discussed in a PreGen subcommittee meeting.

Additional non-PreGen funded clinical diagnostic testing may be requested by the treating clinician outside of these criteria after discussion with the testing laboratory.