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

## *April 2025*

# 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
- Families who have decided to have a termination where the process of termination has not begun, 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

**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 agenesis of the corpus callosum or significant abnormality of the corpus callosum

Some fetal structural anomalies may occur in isolation and have a low diagnostic rate. These could be considered if they have an early onset, are severe and/or combined with other ultrasound abnormalities. These types of structural anomalies should be considered with the PreGen team before a decision is made as to whether they can be included.

**Exclusion Criteria**

- The family do not wish to take part in PreGen
- The process of termination of pregnancy has begun
- 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)

Anomalies with a low diagnostic yield or those where there is no further possibility of testing in the project, including:

- Apparently isolated:
    - Talipes
    - Anatomical cardiovascular defect with a low chance of a genomic diagnosis (such as ASD, VSD, PDA)
    - Mild unilateral or bilateral ventriculomegaly
    - IUGR
    - Increased NT
    - Cleft lip
    - Differences in sex development (DSD)
    - Heterotaxy

Inclusion criteria for specific families will be discussed in a PreGen subcommittee if their acceptability into the project is unclear.

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