 瑪麗醫院 QUEEN MARY HOSPITAL	Department of Obstetrics and Gynaecology	Document No.	OGRM222
		Issue Date	May 2024
	Subject Information on PGT-A English	Next review date	April 2026
		Approved by	HKU-QMH-KWH CARE
		Page	Page 1 of 2

Information on Preimplantation Genetic Testing (PGT) for Aneuploidy

1. Nature

This method aims at determining the chromosomal number of embryos before they are transferred to the womb. It allows selection and transfer of embryos with normal number of chromosomes.

2. Indications

- ☐ History of recurrent pregnancy loss without any obvious causes
- ☐ History of repeated failure in IVF cycles without any obvious causes
- ☐ Advanced age of women undergoing IVF
- ☐ Sex chromosome aneuploidy
- ☐ Other, specify: _____

3. Procedure

In addition to IVF procedures, the following steps are involved:


- Fertilization by intracytoplasmic sperm injection
- Embryo biopsy: removal of 5-10 trophectoderm cells from blastocysts
- Each blastocyst is individually frozen after embryo biopsy
- Genetic study of the cells by next generation sequencing (NGS)
- Transfer of a blastocyst with normal chromosomal number to the womb in frozen transfer cycles. Mosaic blastocysts can be replaced while aneuploid blastocysts are not advised to be replaced.

4. Risks

The biopsy of cells from blastocysts may reduce the pregnancy rate (~5%), when compared with no biopsy.

5. Test accuracy and limitations

- PGT has <5% misdiagnosis.
- NGS **CANNOT** detect point mutations, triplet repeat expansions, uniparental disomy and certain form of haploidy and polyploidies (e.g. 69,XXX). NGS may not effectively detect small chromosomal imbalance (<20 Mb).
- False result can be attributed to mosaicism of blastocysts.

 瑪麗醫院 QUEEN MARY HOSPITAL	Department of Obstetrics and Gynaecology	Document No.	OGRM222
		Issue Date	May 2024
	<u>Subject</u> Information on PGT-A English	Next review date	April 2026
		Approved by	HKU-QMH-KWH CARE
		Page	Page 2 of 2

6. Follow up

After successful conception, conventional prenatal diagnosis may still be needed if clinically indicated.

After delivery, it is advisable to follow up the development of the baby.

7. Alternative

The alternative is to try natural conception (in case of idiopathic recurrent miscarriages) or to undergo IVF without PGT. After conception, prenatal diagnosis may be performed if clinically indicated.

There is no clear evidence so far to confirm an improvement in the live birth rate after PGT in advanced maternal age, unexplained recurrent pregnancy loss and repeated failure in IVF cycles.

Note:

- ☐ We will proceed to the embryo biopsy even if there is only one blastocyst.
- ☐ There may *NOT* be any transfer after PGT if all are genetically abnormal or the blastocysts cannot survive after thawing.
- ☐ We CANNOT disclose the sex of the blastocysts unless medically indicated.
- ☐ Only one blastocyst will be replaced in each transfer. Please use contraception during the transfer cycle.

(Affix label)
 Wife's name &
 ID number

(Affix label)
 Husband's name &
 ID number

Signature of Wife: _____

Signature of Husband: _____

Date: _____