

Training Module in Pre-implantation Genetic Testing (PGT)



British
Fertility
Society

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Introduction

Individuals who are carriers, or at risk of being a carrier, of a serious genetic condition or have a child affected with a serious genetic condition may wish to avoid transmission of that condition to the next generation. Pre-implantation genetic testing for a known genetic condition (previously known as pre-implantation genetic diagnosis) enables couples to minimise this risk.

This training programme, devised by Alison Richardson and Tarek El-Toukhy on behalf of the British Fertility Society, is designed to assist professionals in developing and consolidating their expertise in this area.

This course complements the BFS study day on PGT.

Once trained, the trainee should have:

Acquired an **understanding** of the:

- multidisciplinary nature of PGT
- genetic, medical and fertility assessment of individuals/couples requesting PGT
- laboratory techniques involved in PGT
- embryo selection and transfer techniques
- alternatives to PGT
- Regulatory and funding aspects of PGT

Developed the **capacity** to:

- manage a couple requesting PGT
- facilitate good communication between patients and staff involved in PGT
- complete the necessary documentation relevant to ART and PGT

Acquired **experience and knowledge** of:

- relevant administration and management skills, including clinical governance
- legal and ethical issues including the Human Fertilisation and Embryology Act
- epidemiology, statistics, research and audit

Entry Criteria

The following criteria must be satisfied:

- The trainee must be working in the field of infertility and reproductive medicine
- There must be dedicated training time available
- The trainer(s) must be working within a tertiary IVF centre offering (directly or indirectly via a satellite service) PGT

Registration for the training module can only be made when the above has taken place

Training Programme Components

The following are essential components of the training programme and all of them have to be completed:

- Trainees should register at the commencement of the training module with the BFS, and the trainer should support the application for training
- A named trainer must sign an educational contract confirming that he/she is able and willing to provide the training contained in the module. The trainer must be skilled in the management of the infertile couple and have expertise in assisted conception and in particular PGT. The trainer will agree to supervise the trainee throughout the module. Occasionally and because of necessity, some sessions of training may be conducted under the supervision of professionals other than the trainer. It is the responsibility of the trainer to ensure that the professional to whom the duty of training is delegated is sufficiently competent, willing and able to teach the trainee.
- The trainee must attend regular sessions during training and keep a log relating to experience gained
- The trainee must attend the approved BFS Study Week theoretical course on PGT. The course will complement the essential knowledge component of training for this module. The course must be attended during the time of training and when the logbook is being completed.
- The trainee should attend regular multidisciplinary meetings and educational activities within the department where the training is done.

Training will be deemed complete when all the components have been completed to the satisfaction of the trainer and the study day has been attended.

At that point all documentations will be sent to the BFS for approval and a certificate of completion will be sent if the training module has been completed successfully.

The Guide to Learning

This Guide to Learning defines the skills required for the management of couples requesting PGT to avoid transmission of a genetic condition to a future generation. Completion of the Guide to Learning will allow the trainer and trainee to monitor progress and identify learning needs over the course of training. It is important to note that the handbook is a record of **competence** as well as **experience**. The trainer and trainee will review the progress of training every month. Competence will be documented by the trainer signing the appropriate sections of the handbook. Progress will be documented by the trainer signing off the appropriate sections of the handbook when knowledge has been acquired and independent clinical competence reached, as appropriate. **It is imperative that all trainees appreciate that their progress has to meet the standards that satisfy the trainer. At the end of the training programme, the trainer has to certify that the skills attained by the trainee are to his/her satisfaction.**

Application for training centre recognition and trainer's contract

To be eligible as a training centre in PGT the following criteria must be met:

- The centre should provide a service (either directly or indirectly via a satellite service) for the management of individuals/couples requesting PGT to avoid transmission of a genetic condition to a future generation
- The centre should have adequate clinical workload incorporating a comprehensive range of disorders associated with infertility
- The centre must have a HFEA license (or equivalent if based outside the UK)
- The centre should have access to appropriate laboratory facilities to allow appropriate investigation of male and female patients
- The centre should have access to daily ultrasound investigations for monitoring women undergoing controlled ovarian stimulation
- The centre should provide an assisted conception service offering in excess of 250 fresh IVF cycles per year. Cryopreservation of gametes and embryos and a donor gamete programme should be available
- The centre should have access to a registered genetic counsellor
- The centre should have regular multidisciplinary meetings as well as an active training and education programme
- The trainer must agree to carry out monthly appraisal of the trainee's progress and records kept of such meetings.

Trainee application for registration for the training module

Trainees seeking to register for training in the PGT module should:

- Be a member of the British Fertility Society.
- Undertake training over an agreed period of time, no less than 6 months and no more than 12 consecutive months in a unit recognized as a 'training centre' by the Society, under the guidance of a recognised trainer. Should the trainee require more than 12 months they should write to the chairman of the BFS Training Subcommittee explaining the reason for extending the training period and to agree a suitable time frame for completion.
- Provide payment of £150 upon application.

Certification

When training is complete, the Notification of Completion of Training form together with the other required information should be sent to the BFS. A certificate stating that the trainee has completed the certification module will be issued.

The trainee is required to submit for scrutiny:

- The BFS PGT study day certificate of attendance

- The signed Guide to Learning
- Log of experience
- Case based discussion record
- Logbook
- The record of appraisal
- The notification of completion form
- Online Trainee feedback form; <https://www.surveymonkey.co.uk/r/YTQVCT6>

Should the Training sub-committee not be fully satisfied of the completion of training, a written report and suggestions for remedial training will be sent to the trainer and a copy to the trainee.

Guide to Learning

The trainee should sign and date when they consider that the knowledge and targets of the guide have been achieved (clear boxes). The trainer should sign off independent clinical skills competence targets (shaded boxes).

1. Genetic Assessment

The trainee should understand and be able to:

Discuss the cell cycle and Mendelian patterns of inheritance including autosomal dominant, autosomal recessive and X-linked conditions, as well as chromosomal rearrangements

Date:

Appreciate the medical, psychological and social aspects of having a child with a genetic condition

Date:

Take a genetic family history from a couple

Date:

Liaise with registered genetic counsellors and appreciate their role in a multi-disciplinary PGT service

Date:

Identify and obtain appropriate family samples needed to perform genetic testing in order to facilitate creation of specific probe

Date:

Section completed

Date:

2. Medical Assessment

The trainee should understand and be able to:

Conduct a clinical consultation with a couple seeking PGT

Date:

Take a medical history from males and females

Date:

Perform an appropriate examination

Date:

Consider the effect of a pregnancy on pre-existing medical condition (where the female partner is affected)

Date:

Consider the effect of the pre-existing medical condition on treatment and a future pregnancy (where the female partner is affected), and arrange anaesthetic review before oocyte retrieval where necessary

Date:

Consider what additional investigations and treatment a male partner with absent sperm due to the genetic condition might need

Date:

Appreciate what medications may need to be altered prior to conception and, where necessary, liaise with an appropriate medical specialist(s)

Date:

Refer to an obstetrician for pre-conceptual counselling where necessary

Date:

Section completed

Date:

3. Fertility Assessment

The trainee should understand and be able to:

Conduct a clinical consultation with a couple seeking treatment

Date:

Take a medical history from males and females

Date:

Discuss how to initiate appropriate fertility investigations including assessment of ovarian reserve and semen analysis and be able to interpret results

Date:

Provide couples with general advice including lifestyle issues relevant to fertility e.g. smoking, alcohol, weight control, pre-conceptual supplementation

Date:

Plan a suitable cycle of controlled ovarian stimulation using an appropriate dose of gonadotrophins based on predictors of ovarian response

Date:

Determine whether additional provisions/precautions need to be made for cycle monitoring/oocyte retrieval (due to maternal medical comorbidities)

Date:

Section completed

Date:

4. Laboratory Techniques

The trainee should observe the following:

ICSI

Date:

Embryo culture

Date:

Trophectoderm biopsy

Date:

Freezing and thawing of embryos

Date:

Section completed

Date:

5. Embryo Selection and Transfer

The trainee should understand and be able to:

Interpret the genetic results and communicate these to the patient/couple

Date:

Appreciate techniques for handling and/or storage of affected/unaffected embryos, including dealing with inconclusive results

Date:

Plan a frozen embryo transfer cycle

Date:

Discuss the importance of (and demonstrate) a good embryo transfer technique

Date:

Section completed

Date:

6. Alternatives to PGT

The trainee should be able to discuss the alternatives to PGT including their advantages, disadvantages and practicalities:

CVS

Date:

Amniocentesis

Date:

Non-invasive pre-natal testing (NIPT)

Date:

Gamete donation

Date:

Adoption

Date:

Voluntary childlessness

Date:

Section completed

Date:

7. Licensing/Funding Aspects of PGT

The trainee should understand:

How to determine whether a particular condition is licensed for PGT

Date:

HFEA Licence application

Date:

Funding provisions/restrictions for PGT and remit of Individual Funding Request (IFR)

Date:

Section completed

Date:

8. Ethical, Psychological and Legal Aspects of PGT

The trainee should be able to discuss the ethical and legal aspects of relevant issues including:

Consider the impact of alive/deceased child with the genetic condition, and the impact of previous TOP of much wanted pregnancy

Date:

Consider the impact of the length of genetic and PGT treatment journey on the family and recognise patients who may need fertility counselling

Date:

Legislation relevant to PGT

Date:

The role of the HFEA in the regulation of PGT in the UK

Date:

The role and relevance of ethics committees

Date:

Section completed

Date:

9. Epidemiology, Research, Statistics and Audit

The trainee should demonstrate knowledge of:

Epidemiological techniques (e.g. cohort and case-control studies)

Date:

Randomised controlled trials and the use of meta-analyses

Date:

Critical evaluation of research relating to PGT

Date:

Section completed

Date:

10. Administration

The trainee should be given some administrative experience and responsibility which will allow him/her to acquire skills relevant to the future provision and organisation of clinical services in this area

Discuss the value of multi-disciplinary team meetings in a PGT service

Date:

Section completed

Date:

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Log of Experience

Date	Signature, Name and Position of Lead Clinician
Attendance at PGT Fertility Clinic (minimum x5)	
Attendance at PGT MDT Meeting (minimum x3)	
Attendance at Genetic Counselling Session (minimum x2)	
Attendance at Pre-Conceptual Counselling Antenatal Clinic (minimum x1)	

Case Based Discussion (minimum x2)

Trainee Name: _____ Date: _____

Trainer Name: _____ Position: _____

Focus of clinical encounter: Clinical record keeping

Clinical assessment

Management

Professionalism

Complexity of case: Low

Average

High

Feedback:

Clinical scenario:

What went well?

Learning plan:

Trainee Reflection:

Logbook

Trainee name

	Date	Genetic Condition / Medical / Fertility Issues	Comments on case	Trainers signature/date
1				
2				
3				
4				
5				
6				

	Date	Genetic Condition / Medical / Fertility Issues	Comments on case	Trainers signature/date
7				
8				
9				
10				
11				
12				
13				

	Date	Genetic Condition / Medical / Fertility Issues	Comments on case	Trainers signature/date
14				
15				
16				
17				
18				
19				
20				
21				

	Date	Genetic Condition / Medical / Fertility Issues	Comments on case	Trainers signature/date
	22			
	23			
	24			
	25			
	26			
	27			
	28			
	29			

	Date	Patient ref	Genetic Condition / Medical / Fertility Issues	Comments on case	Trainers signature/date
30					
31					
32					
33					
34					
34					
36					
37					

	Date	Patient ref	Genetic Condition / Medical / Fertility Issues	Comments on case	Trainers signature/date
38					
39					
40					

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Pre-implantation Genetic Testing Training Module

Appraisal Record

Date	Learning targets achieved	Logbook progress	Targets for next month	Trainee signature	Trainee signature
01/01/21	<p style="text-align: center;">Example</p> <p><i>Understand how to record genetic family history from a couple and undertake genetic assessment</i></p>	<p><i>5 cases recorded. Good relationship with patients. Aware of HFEA regulations</i></p>	<p><i>Observe following laboratory techniques; ICSI, Embryo Culture, Trophectoderm biopsy, Freezing and thawing of embryos</i></p>	J Smith	R Jones

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Please complete and return the form preferably by email to:
bfs@profileproductions.co.uk

Or post to: BFS Secretariat C/o Profile Productions Ltd
Boston House, 69-75 Boston Manor Road, Brentford, TW89JJ
t: +44 (0)20 3725 5849



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Notification of Completion of Training Module

(To be completed by trainer)

I certify that

.....
has completed the training module in

- Pre-implantation Genetic Testing to my satisfaction.

I confirm that I have had regular assessment sessions with the trainee and each of the required skills in the logbook has been attained.

Date of commencement of practical training ____ / ____ / ____

Date satisfactorily completed theoretical course: ____ / ____ / ____

Trainee name:
.....

Trainee signature: Date:.....

Trainer(s) in charge of training:

Trainer name: Date:

Trainer signature: Department address:.....
.....
.....

CHECKLIST FOR SUBMISSION OF PGT DOCUMENTS

The following materials are required to be submitted to the Training Subcommittee for their consideration:

- Y Certificate of attendance from the most recent PGT Study Day
- Y Completed Guide to Learning
- Y Completed Log of experience
- Y Case based discussion records (minimum 2)
- Y Completed logbook
- Y Completed Appraisal Record
- Y Signed Notification of Completion form
- Y Completed online Trainee Feedback form on Survey Monkey:

<https://www.surveymonkey.co.uk/r/YTQVCT6>

Please do not submit your documentation until you have all elements listed above.