



**FORENSIC  
SCIENCE  
SERVICE**



# ACPO/FSS/FFLM Guidance in Criminal Paternity Cases



The issue of paternity surrounding the pregnancy of women which has arisen from a sexual assault is becoming more frequent. As a consequence the following guidance has been drawn up by the Forensic Science Service, the Faculty of Forensic and Legal Medicine and the Association of Chief Police Officers.

In cases where it is believed that a woman has become pregnant as a result of a sexual assault, paternity analysis can be carried out to establish the identity of the father. If the woman has given birth to a baby, reference samples should be submitted from:

- the child
- mother and
- the individual(s) believed to be the father

The preferred method used to collect the reference sample is via buccal scrape.

## Cases in which the pregnancy has been terminated

If the woman decides to opt for a termination of the pregnancy, paternity analysis can be carried out on the products of conception / foetus. The potential to obtain a suitable DNA profile depends upon the duration of the pregnancy and the method of termination.

The investigating officer needs to know:

- The gestation in weeks (duration) of the pregnancy
- The method of termination to be used by the clinic
- Whether the woman gives consent for police to collect the products of conception and carry out DNA analysis
- Whether the accompanying officer needs to provide the clinic with a suitable container in which to retain the products of conception ?

In some cases involving vulnerable victims (e.g. children, women who lack capacity), the woman may not be willing to support the police investigation. The officer will need to establish whether a court order is required in order to collect the products of conception from the clinic.

The duration of a pregnancy is usually measured by the number of days that have passed since the first day of the woman's last menstrual period (LMP), not from conception. Pregnancy usually lasts from 37 – 42 weeks.

- Week 2 (since LMP) - the egg is fertilised in the fallopian tube.
- Week 3 – the fertilised egg implants in the uterus (womb) wall and the hormone (human chorionic gonadotrophin) is produced which is detected by pregnancy test kits.
- Week 5 – the time of the woman's first missed period. The embryo is approximately 5mm long.
- Week 8 – the developing embryo is now referred to as a foetus. It is approximately 10 mm long.
- Week 14 – the foetus is now fully formed, approximately 85 mm long (from head to bottom). Pregnancy may just be beginning to show.
- Week 22 – the foetus is approximately 27 cm long (head to bottom).

In England and Wales a pregnancy termination can be carried out up to week 24. (it is not legal in Ireland/ Northern Ireland). In cases where the foetus has a serious abnormality or the pregnancy puts the mother's life at risk, there is no legal time limit. The clinic will confirm the gestation in weeks (duration) of the pregnancy using an ultrasound scan prior to discussing the options available for termination.

- Early medical / chemical – available if pregnancy is less than 9 weeks.
- Early surgical / vacuum aspiration – available up to 14 weeks.
- Late surgical / medical – available from 14 – 24 weeks.

### Early medical / chemical (less than 9 weeks)

This method is unlikely to be suitable for paternity analysis as collection of the products of conception is not supervised at the clinic and the embryo is very small.

The client is given a tablet to take at the clinic and then sent home. The tablet (RU-486) initiates changes in the uterus lining and detachment of the embryo. Some bleeding may occur. 48 hours later the client is given a second tablet which causes the uterus to contract and expel the embryo through the cervix (neck of the womb). The majority of women will expel the products of conception within 6 hours of taking the second tablet. Cramping pains are likely to be most intense during expulsion of the embryo.

It may be possible to recover the products of conception onto a sanitary towel, however the embryo may be too small to be seen amongst the blood clots. The greyish gestational sac may be visible. It is possible that the products of conception may be lost down the toilet when the woman urinates and it is likely to be unclear upon which sanitary towel the embryo has been deposited. If DNA analysis is attempted – the majority of the tissue is likely to be maternal in origin.

### Early surgical / Vacuum aspiration (up to 14 weeks)

This procedure will be carried out at the clinic. The client may be sedated / given a general anaesthetic. If carried out on / after week 9, DNA analysis is likely to be successful.

A suction tube is inserted into the uterus through the cervix and the products of conception are removed. The aspirate (mixture of blood and foetal tissue) is collected into a syringe / bag. It is likely that the foetus will be fragmented and the majority of the tissue recovered will be maternal in origin. The gynaecologist may examine the aspirate to ensure that termination is complete and there is no abnormal tissue present. The officer can ask the gynaecologist to separate any foetal tissue into a different container.

All of the aspirate should be retained and placed into a sterile secure container(s). No preservatives should be added and the sample must be stored as frozen.

### Late termination / induction (14 – 24 weeks)

At this stage the foetus will be quite large. The client may be given an injection to induce pseudo-labour or the foetus may be removed surgically under general

anaesthetic. Only a portion of the foetus needs be submitted for DNA analysis e.g. muscle tissue from a limb / abdomen or blood from the heart. The gynaecologist should be asked to place an appropriate sample into a sterile secure container. No preservatives should be added, it must be stored frozen. The remaining foetal tissue should not be destroyed until the laboratory has confirmed that DNA analysis has been successful. DNA profiling should be 100% successful unless the sample has been allowed to putrefy.

### Ideal Samples to Submit to the Laboratory for DNA Analysis

- Buccal scrape from the complainant / mother
- Buccal scrape(s) from the putative father(s)
- Product of conception sample

If an early termination has been carried out surgically all of the aspirate should be submitted. If a later termination has taken place only a portion of the foetal tissue needs to be submitted.

The sample should be placed into a sterile, secure container and no preservatives added and kept frozen. Ideally the container should be made from opaque plastic and have a secure lid which does not leak. Glass containers should not be used as they may break when frozen.

Handling products of conception may be distressing for some individuals thus the contents of the container should be obscured by using an opaque material.

If there is no putative father put forward or if the nominated suspects have been eliminated by DNA profiling, it is possible to carry out a speculative Familial Search of the National DNA Database®.

### Ethical consideration / Human Tissues Act

DNA profiling analysis in criminal paternity cases is likely to be most successful if the termination takes place on / after 10 weeks (since LMP). However if the incident is reported to police at an earlier time, it is likely to be in the best interests of the complainant to undergo a termination procedure at the earliest available opportunity and not to delay the procedure until 10 weeks. The complainant may also prefer to opt for early medical / chemical termination which is unlikely to be compatible with DNA analysis.

Items seized by police for criminal investigation purposes are excluded from the Human Tissue Act 2004 regulations (see section 39). However it is considered best practice to follow the Human Tissue Authority code of practice when dealing with products of conception. It is recommended that when analysis is complete, the remaining sample is returned to the clinic that carried out the termination, for the tissue to be disposed of following their procedures and in accordance with any wishes expressed by the complainant.

**For further information or case advice please contact the FSS Paternity Analysis Team:**

**Tim Clayton – 01937 548152  
Lesley Denton – 01937 548287  
Sally Hill – 01937 548143  
Val Tomlinson – 01937 548153**