Reference Number: 1 **Version Number: 2**	**Date of Next Review: April 2027** **Previous Trust/LHB Reference Number:**
Title Fertility Sparing Treatment for Gynaecological Cancers Guideline	
Introduction and Aim This guideline includes the indications and follow up of patients undergoing fertility sparing treatment for cervical, endometrial and ovarian cancer.	
Objectives To provide a clinical guideline for managing patients with gynaecological cancers who desire to retain fertility.	
Scope This policy applies to all healthcare professionals in all locations including those with honorary contracts	
Equality Health Impact Assessment	*An Equality Health Impact Assessment (EHIA) has not been completed.*
Documents to read alongside this Procedure	
Approved by	*Gynaecology Professional Forum/ Quality & Safety*

Accountable Executive or Clinical Board Director	
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Summary of reviews/amendments

Version Number	Date of Review Approved	Date Published	Summary of Amendments

1. Scope of the Guideline

This guideline includes the indications and follow up of patients undergoing fertility sparing treatment for cervical, endometrial and ovarian cancer.

2. Background

A fifth of gynaecological cancers affect women of reproductive age. With increasing numbers of women delaying childbearing, fertility preservation is an important issue. Conservative surgery usually consists of the preservation of at least the uterus and part of one ovary to maintain reproductive potential. Importantly, the majority of fertility-sparing treatments are not considered standard of care and therefore appropriate patient selection is crucial to both oncological and obstetric outcomes. When offering fertility sparing treatments for gynaecological cancers, women should be counselling regarding oncological safety and subsequent obstetric outcomes.

3. Fertility sparing treatment for cervical cancer

3.1. Stage IA disease

- Conisation (LLETZ or knife cone biopsy) is an acceptable treatment for stage IA1 squamous cell and adenocarcinoma of the cervix.
- In stage IA2 with LVSI, pelvic lymph node dissection should also be performed.
- Re-conisation is recommended if there is cancer within 3mm of the specimen margins, the specimen margins are positive for CIN, the specimen cannot be orientated, is fragmented or has diathermy artefact making it impossible to assessment.
- Conisation for cervical cancer is often large or multiple and carries a risk of cervical incompetence, premature labour and neonatal death. This must be explained to women who have this treatment.

3.2. Stage IB1 disease

- Simple trachelectomy or cone biopsy may be considered in selected women with low volume disease.
- Radical trachelectomy (vaginal, laparoscopic or abdominal) is an acceptable fertility-sparing treatment for women with stage IB1 disease.

- Women should be counselled regarding oncological and obstetric outcomes as per table 1. Women should be informed that if they do conceive and a cerclage is in situ, a caesarean section would be required.

Table 1. Oncological and obstetric risks associated with radical trachelectomy. Reproduced from BGCS cervical cancer guideline.

	RVT	Open ART	Minimally invasive ART
Risk of receiving fertility sacrificing treatment (e.g. RXT)	11%	17%	8%
Risk of recurrence	5%	5%	6%
Cervical erosion rate	3%	3%	5%
Cervical stenosis rate	8%	11%	5%
Achieves at least one pregnancy	50%	>42%	66%
Proportion of pregnancies secondary to fertility treatment	25%	50%	33%
Achieve a live birth	50%	25%	57%
Premature delivery rate	40%	50%	49%
Extreme premature delivery rate	17%	20%	22%

3.3. Follow up

- All women who have undergone conisation require:
    - Annual smears and colposcopy for 10 years (CSW SOPP) (stage 1a1-1b1)
    - Annual MRI for 5 years (stage 1b1)
- All women who have undergone trachelectomy should:
    - Be followed up at UHW in the gynaecological oncology/colposcopy clinic – initially every 6 months in the first year then annually.
    - Be discouraged from getting pregnancy for the first 12 months to ensure adequate healing and to exclude persistent or recurrent disease.

- Have annual smears for 10 years and annual MRI for 5 years.

3.4. Ovarian Transposition

- In patients with cervical squamous cervical cancer, women due to receive external beam radiotherapy could be offered ovarian transposition if the radiation field we be away from the vascular pedicle.
- Prior to surgery, women should be informed that the failure risk and risk of ovarian cyst formation and entrapment are approximately 35% and 5%, respectively.
- Women should also be informed of the potential risk of metastases to the transposed ovary.

4. Fertility sparing treatment for endometrial cancer

- Women with atypical endometrial hyperplasia and grade 1 endometrioid endometrial carcinomas without myometrial invasion can be considered for fertility sparing treatment.
- Pelvic MRI should be performed to exclude overt myometrial invasion and adnexal involvement.
- Women must be informed that fertility-sparing treatment is a non-standard treatment, and counselled extensively about the risks and benefits. Women opting for fertility-sparing management should be willing to accept close follow-up and be informed of the need for future hysterectomy.
- Oral medroxyprogesterone acetate (MPA) 400-600mg/day or megestrol acetate (MA) 160-320mg/day is recommended. Alternatively, treatment with LNG-IUD with or without GnRH analogues can be considered.
- In order to assess response, hysteroscopic guided biopsy and repeat MRI should be performed at 3-4 and 6 months. If no response is achieved after 6 months, standard surgical treatment (hysterectomy and BSO) should be advised.
- In case of complete response, conception should be encouraged and referral to a fertility specialist is recommended.

- Maintenance treatment should be continued in complete responders who wish to delay pregnancy.
- Women not undergoing hysterectomy should be re-evaluated clinically every 6 months.
- After the patient has completed her family, a hysterectomy and bilateral salpingo-oophorectomy should be recommended.

5. Fertility sparing treatment for ovarian cancer

5.1. Epithelial Ovarian Cancers

- Fertility-sparing surgery (FSS) can safely be offered to patients with grade 1 or 2 mucinous, serous, endometrioid, or mixed histology tumours and FIGO stage IA or IC disease confined to one ovary.
- Intra-operative frozen section can be used to determine whether a suspicious pelvic mass is benign or malignant, and whether FSS could be offered.
- FSS for ovarian cancer usually involves unilateral salpingo-oophorectomy and adequate peritoneal surgical staging (omentectomy, peritoneal biopsies and cytology).
- Biopsy of the contralateral ovary, if normal in appearance, is unnecessary.
- Assessment of the appendix or an appendicectomy is recommended as part of surgical staging in mucinous tumours to exclude the presence of a primary appendix cancer.
- Laparotomy is the preferred approach to avoid surgical spillage; however, minimal invasive surgical approaches have also been shown to be feasible.
- Several retrospective series comparing fertility-sparing surgery and conventional surgery found no significant difference in survival outcomes (Ditto et al., 2015, Kajiyama et al., 2011, Park et al., 2016b, Lee et al., 2015, Wright et al., 2009). In a 2016 systematic review of 39 studies describing 1150 patients who had undergone fertility-sparing surgery, the risk of recurrence was 7% in stage IA grade 1 tumours and 11% in stage IA grade 2 and IC grade 1/2 disease (Bentivegna et al., 2016), which is similar to the rates observed following conventional surgery.

5.2. Non-epithelial ovarian cancers

- Non-epithelial ovarian cancers include germ cell tumours and sex cord-stromal tumours. Malignant GCTs, juvenile granulosa cell tumours, Sertoli cell tumours and Sertoli-Leydig cell tumours generally develop in adolescents and young women, and therefore all efforts should be made to preserve fertility.
- Most ovarian GCTs are unilateral, and unilateral salpingo-oophorectomy with conservation of the contralateral ovary and uterus is now standard of care for women who wish to preserve fertility. Conservative surgery can also be considered in young women with advanced disease due to the highly chemo-sensitive nature of these tumours and the relatively low gonadotoxic effect of adjuvant chemotherapy.
- FSS is considered safe for the treatment of selected patients with unilateral, stage I sex cord-stromal tumours. An endometrial biopsy is recommended to rule out concomitant uterine cancer.

5.3. Borderline ovarian tumours

- FSS is the standard management of young patients with borderline ovarian tumours.
- This generally involves a unilateral salpingo-oophorectomy, although ovarian cystectomy is also acceptable in women with serous borderline tumours to optimise fertility preservation.
- Comprehensive surgical staging with careful inspect of the peritoneal cavity, peritoneal washings, omental and peritoneal biopsies are recommended due to the risk of peritoneal implants, which have prognostic significance.
- Relapse rates are higher after cystectomy (12–58%) and salpingo-oophorectomy (0–20%) compared with radical surgery (2.5–5.7%); there may be late recurrences, and the importance of careful, long-term follow-up needs to be stressed (Bagade et al., 2021).

5.4. Follow up

- Women undergoing conservative management of ovarian cancer should have regular follow up, initially every 3 months, with pelvic examination and CA-125.
- Women with borderline ovarian tumours should be followed up for 10 years.

6. Obstetric management

All patients should be alerted to have an early pregnancy scan and be registered with a nominated obstetrician managing high risk pregnancies. The obstetrician is encouraged to communicate with the gynaecological oncologist.

7. References

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Bentivegna E, Gouy S, Maulard A, *et al.* Fertility-sparing surgery in epithelial ovarian cancer: a systematic review of oncological issues. *Ann Oncol* 2016; 27 (11): 1994-2004.

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Colombo N, Sessa C, Du Bois A, *et al.* ESMO-ESGO consensus conference recommendations on ovarian cancer: pathology, molecular biology, early and advanced stages, borderline tumours and recurrent disease. *Ann Oncol* 2019; 30: 672-705.

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