mater

Guidelines for the Surveillance of Gynaecological Malignancies

mater.org.au

Purpose of Guideline

This guideline was devised to clarify the follow-up of gynaecological malignancies once a patient has completed primary treatment. It will encompass both hospital-based follow-up and subsequent discharge to primary care. Historically surveillance procedures have not been standardised as there is a paucity of good quality evidence to direct care.

Currently hospital surveillance is primarily directed at clinical examination to detect recurrence. However, it is known that clinical examination has a low detection rate in the absence of symptoms in many gynaecological malignancies and also early detection of recurrence may not impact survival outcomes [1]. There are also financial and opportunity costs associated with follow up for both hospital services and patients. Follow up services focussing primarily on clinical review may also not adequately address the holistic health care needs of patients nor the psychological or physical sequelae that have arisen from treatment; especially if clinics are overburdened with patients for review.

This guideline will also provide a framework for low risk patients or patients who have completed hospital base follow-up to be discharged and continue surveillance in primary care.

Members of the working group for development of surveillance guideline (All based at Mater Health, Brisbane):

- Dr Nimithri Cabraal, Consultant Gynaecological Oncologist
- Professor Lewis Perrin, Head of Department, Consultant Gynaecological Oncologist
- Dr Naven Chetty, Consultant Gynaecological Oncologist
- Dr Nisha Jagasia, Consultant Gynaecological Oncologist
- Bronwyn Jennings, Clinical Nurse Consultant
- Talitha Ketchell, Speciality Administration Coordinator
- Belinda Baskerville, Business Manager

Endorsed by QCGC

Contents

Surveillance by Cancer Subtype

Endometrial Cancer

Endometrial cancer is the most common gynaecological cancer treated in Queensland. 80% of patients are endometrioid subtype, with most of these patients being low to intermediate grade malignancies and early stage at diagnosis [2]. Survival in stage 1 exceeds 95% at 5 years and approaches 83% overall [2]; despite this recurrences can occur in all stages and are most likely in patients with high grade histology. Local (pelvic) recurrence is the most common and may be curable in some patients. Most recurrences occur in the first 3 years after treatment [3, 4].

The risk of recurrence in early stage, low grade endometrial cancer is low (<5%) [2], these patients will be discharged to primary care after an initial 6 month post treatment visit. A patient initiated follow-up approach (via the GP) is increasingly accepted in this low risk cohort [5]. Patients considered higher risk or those who receive adjuvant treatment will be followed up in the Gynaecological Oncology clinic. So as not to double up on visits; these review appointments should be carried out on an alternating basis with radiation oncology unless the patient has only had adjuvant chemotherapy in which case visits will be alternated with medical oncology services. This is outlined in the schedule below. Once hospital-based follow-up (3-5 years) is completed patients will be discharged to primary care to continue follow-up with GP for a total of 10 years post diagnosis care.

Physical examination in combination with review of symptoms has resulted in rates of detection of >80% for pelvic recurrence [4, 6, 7] Therefore each review should consist careful questioning of symptoms in addition to a through speculum and pelvic examination. Vaginal cytology is not useful to detect recurrence in the absence of symptoms [8]. Routine imaging is also not recommended in the absence of symptoms [8, 9]. Ca 125 should not be used routinely but could be used in follow-up in selected cases of patients with uterine papillary serous carcinomas [10]. CT chest/abdomen/pelvis is the preferred imaging modality if recurrence is suspected, PET/CT could be considered if available.

Further attention should be directed to assessment of psycho-social and lifestyle issues at each visit. Specific questions should be asked if appropriate regarding psychological distress, sexual dysfunction, menopausal symptoms and lymphoedema. Appropriate referrals should then be made for on-going patient care.

Common symptoms / signs of endometrial cancer recurrence (1)

Local	Vaginal Bleeding Vaginal Lesion / Pain
Distant	Abdominal / Pelvic Pain Cough Lethargy Abdominal Distention

Recommended Surveillance Schedule for Endometrial Cancer	0-1 Years	1-2 years	2-3 years	3-5 years	5-10 years
Stage 1A, Grade1/2	Single 6 month visit Discharge to GP care Annual GP visit for clinical review and pelvic examination	GP care	GP care	GP care	GP care
Stage 1B, Grade 1/2 **(alternate with radiation oncology)**	6 monthly	6 monthly	Yearly	Discharge to GP care Annual GP visit for clinical review and pelvic examination	GP care
Stage 2, Grade 1/2 **(alternate with radiation oncology)**	6 monthly	6 monthly	Yearly	Discharge to GP care Annual GP visit for clinical review and pelvic examination	GP care
Stage 3 or 4 (any Grade) or Grade 3, serous, clear cell (any stage) **(alternate with radiation oncology or medical oncology if treated with chemotherapy alone)**	4 monthly	6 monthly	6 monthly	Yearly	Discharge to GP care Annual GP visit for clinical review and pelvic examination
Vaginal Cytology	Not indicated				
Imaging	Not routinely indicated without symptoms. CT CAP or PET/CT preferred if recurrence suspected.				

Borderline Ovarian Tumours

Borderline ovarian tumours (AKA low malignant potential tumours) account for 10-20% of epithelial ovarian tumours. The average age of diagnosis is 40-60 years, but a significant proportion of these tumours can occur in young women wanting fertility preservation.

The risk of recurrence across all BOT is 5-8%, with ~2% of women progressing to invasive malignancy [11, 12]. Factors which may increase the risk of recurrence include advanced stage at diagnosis, ovarian cystectomy vs. unilateral or bilateral salpingo-oophorectomy, extra-ovarian disease, residual macroscopic disease, age ≥65 years, serous histology and elevated Ca 125 (>50) at diagnosis [11-14]. The majority of women with stage one disease and who have had a pelvic clearance have a very low risk of recurrence. When recurrences occur, they tend to occur late, with 70% recurring after 5 years, and 30% after 10 years. The on-going risk of recurrence is small but linear and does not decline over time so indefinite follow-up is recommended. The main stay of salvage is surgical management [11].

The evidence for surveillance is scanty in this group and is largely extrapolated from invasive ovarian cancers. The intensity of surveillance should be tailored to risk factors for recurrence. Routine surveillance should include clinical assessment and abdominopelvic examination. In addition the Ca 125 tumour marker can be used for detection of recurrence (especially if initially elevated >50IU) [14], this should be done as per the schedule below and then on an annual basis once the patient has been discharged to GP care. On-going pelvic ultrasound imaging is also recommended without high-level evidence in women who have had fertility sparing surgery to detect recurrence on a contralateral ovary. CT chest/abdomen/pelvis is the preferred imaging modality if extra-ovarian recurrence is suspected.

There is no evidence that completion surgery (hysterectomy/BSO) improves prognosis for women with BOT, but could be considered once childbearing is completed and/or closer to menopause [15]. HRT is safe and should be used if completion surgery is done prior to a menopausal age [16].

Common symptoms / signs of borderline tumour recurrence (1)

Local	Pelvic nodularity / mass Change of periods (if uterus still insitu)
Distant	Abdominal Distention Pain (abdominal) Weight Loss Change in bowel habit Elevated Ca 125

Recommended Surveillance Schedule for Borderline Ovarian Tumours	0-1 Years	1-2 years	2-3 years	3-5 years	5-10 years
Fertility preserving surgery	6 monthly	Yearly	Yearly	Discharge to GP care # Annual GP visit for clinical review and pelvic examination	GP care #
Tumour markers	6 monthly	Yearly	Yearly	Yearly	Yearly
Pelvic USS	6 monthly	Yearly	Yearly	Yearly	Yearly
BOT with extra-ovarian disease (completion surgery or fertility sparing surgery)	6 monthly	6 monthly	6 monthly	Yearly	Discharge to GP care # Annual GP visit for clinical review and pelvic examination
Tumour markers	6 monthly	6 monthly	6 monthly	Yearly	Yearly
Imaging	6 monthly Pelvic USS if residual ovary	6 monthly Pelvic USS if residual ovary	6 monthly Pelvic USS if residual ovary	Yearly Pelvic USS if residual ovary	Yearly Pelvic USS if residual ovary
	No routine imaging if completion surgery - CT CAP preferred if recurrence suspected in this group.				
Completion surgery	Discharge to GP care Annual GP visit for clinical review and pelvic examination	GP care	GP care	GP care	GP care
Ca 125	Yearly	Yearly	Yearly	Yearly	Yearly
Imaging	Not routinely indicated without symptoms CT CAP preferred if required				

Ovarian Cancers

Epithelial Ovarian Cancer

Epithelial ovarian cancer accounts for <30% of gynaecological malignancies but is disproportionately is represented in deaths [2]. The risk of recurrence in patients with epithelial ovarian cancer is high; occurring in 25% of women with early stage disease and >80% of those with advanced stage. Median 5-year survival is 40-50%.

Patient with recurrent ovarian cancer do have options for further surgery and/or chemotherapy depending on the timing and nature of recurrence [17, 18]. Surveillance does have an important role because salvage treatments can have significant impact on on-going survival [19].

26-50% of recurrences occur in the pelvis so a thorough review of symptoms and physical (pelvic and vaginal) examination are an important part of follow up care [20]. Ca 125 is a sensitive tumour marker for recurrence and can rise months before any physical symptoms; however, it is unclear that treatment prior to symptomatic recurrence improves survival [21]. The decision about whether to use Ca 125 as part of surveillance should be discussed with patients after completion of primary treatment [21].

Routine imaging in the absence of symptoms should not be performed. CT CAP or PET/CT is the preferred imaging modality if recurrence is suspected.

Further attention should be directed to assessment of psycho-social and lifestyle issues at each visit. Specific questions should be asked if appropriate regarding psychological distress (fear of living with uncertainty), sexual dysfunction, menopausal symptoms and other physical symptoms that might be a result of treatment (for example peripheral neuropathy).

Common symptoms / signs of epithelial ovarian cancer recurrence (1)

Local	Pelvic nodularity / mass Change of periods (if uterus still insitu)
Distant	Abdominal Distention Pain (abdominal) Weight Loss Change in bowel habit Elevated Ca 125

Recommended Surveillance Schedule for Epithelial Ovarian Cancers					
	0-1 Years	**1-2 years**	**2-3 years**	**3-5 years**	**5-10 years**
All stages (alternate with medical oncology if chemotherapy)	3 monthly	4 monthly	6 monthly	6 monthly	Discharge to GP care Annual GP visit for clinical review and pelvic examination
Tumour Markers	3 monthly	4 monthly	6 monthly	6 monthly	Yearly
Imaging	Not routinely indicated without symptoms. CT CAP or PET CT preferred if recurrence suspected				

Germ Cell and Sex Cord Stromal Tumours

Malignant germ cell tumours account for <3% of all ovarian cancers. These tumours are often unilateral and occur in younger women where fertility sparing surgery has been performed. Recurrence is relatively rare after primary treatment but can be successfully treated. It usually occurs in the first 2 years after end of primary treatment so surveillance is most intensive at this time.

Alpha-fetoprotein (AFP) can be produced by yolk sac tumours of the ovary, embryonal carcinomas, polyembryomas, and immature teratomas. Human chorionic gonadotrophin (hCG) can be produced by choriocarcinomas, embryonal carcinomas, polyembryomas and in low levels by some dysgerminomas. Lactate Dehydrogenase can be a marker for dysgerminomas.

The NCCN guidelines suggest the following schedule of visits/imaging/tumour markers for patients with germ cell tumours [22]. Patients should be carefully assessed for signs and symptoms of recurrence in addition to tumour markers and imaging. MRI abdomen/pelvis should be considered for follow-up imaging instead of CT abdomen/pelvis because of the risk of frequent radiation exposure in young women.

Further attention should be directed to assessment of psycho-social and lifestyle issues at each visit. Specific questions should be asked if appropriate regarding psychological distress (fear of living with uncertainty), sexual dysfunction, menopausal symptoms and other physical symptoms that might be a result of treatment (for example peripheral neuropathy).

Recommended Surveillance Schedule for Germ Cell Tumours of the Ovary

	0-1 Years	1-2 years	2-3 years	3-5 years	5-10 years
All stages (alternate with medical oncology if chemotherapy)	2 monthly	3 monthly	4 monthly	6 monthly	Discharge to GP care Annual GP visit for clinical review and pelvic examination
Tumour Markers	2 monthly	3 monthly	4 monthly	6 monthly	Yearly
Imaging					
Chest Xray	3 monthly	4 monthly	Discontinue in absence of symptoms		
MRI Abdo / Pelvis (or CT Abdo/Pelvis)	3 monthly	4 monthly	6 monthly (non-dysgerminoma) Yearly (dysgerminoma)	6 monthly (non-dysgerminoma) Yearly (dysgerminoma	Not routinely indicated without symptoms

Sex cord stromal tumours account for about 7% of ovarian malignancies. Granulosa cell tumours are the most common subtype; these commonly have elevation in serum inhibin. Recurrences tend to be late with a reported median time of 4-6 years and occur in the upper abdomen (55-70%) and pelvis (30-45%) [23]. Surveillance should consist of review of symptoms and physical examination with measurement of serum tumour markers.

Recommended Surveillance Schedule for Sex Cord Stromal Tumours					
	0-1 Years	**1-2 years**	**2-3 years**	**3-5 years**	**5-10 years**
Early Stage, low risk	6 monthly	6 monthly	6 monthly	Discharge to GP care Annual GP visit for clinical review and pelvic examination	
Tumour Markers	6 monthly	6 monthly	6 monthly	Yearly	Yearly
Imaging	Not routinely indicated without symptoms. CT CAP preferred if recurrence suspected				

Vulval Cancers and Pre-Invasive Vulvar Disease

Vulvar cancer is uncommon, accounting for around 4% gynaecological malignancies. The prognosis for patients with early stage disease is good with >80% 5 year survival. Lymph node status is the single most important prognostic factor [24].

Most local recurrences occur in the first 5 years after treatment. Long term follow-up in the GROINSS-V study showed a local recurrence rate of 27.5% at 5 years and 39.5% at 10 years following primary treatment [25]. Another study showed an overall recurrence rate of 32.7% in patients with positive lymph nodes compared to 5.1% in those with negative lymph nodes. Most recurrences in the high-risk group occurred in the first 2 years, with recurrence rates (12%) after 2 years being similar in both groups [24].

The technique of groin sentinel lymph node biopsy (SLNB) has become standard practice in clinically apparent stage one vulvar cancers. A concern with this approach is the risk of missing an involved non-sentinel lymph node at the time of surgery; the GROINSS-V study suggested the risk of groin recurrence in unifocal disease was 2.3% in the first three years after SLNB. Median time to groin recurrence in this study was 12 months (range 5 to 16 months)[26]. Groin recurrence was associated with a poor prognosis in GROINSS-V. A more recent prospective study evaluated the efficacy of groin ultrasound in routine follow-up of women with vulvar SCC after a negative sentinel lymph node biopsy [27]. 3 monthly groin ultrasounds were conducted over a 2-year period. In this study, 2 asymptomatic groin recurrences were picked up on follow up groin ultrasound within 8 months of initial treatment and both patients were successfully salvaged with further treatment [27]. Therefore, it may be reasonable to use groin ultrasound to follow up patients after SLNB in order to offer early salvage treatment. The suggested groin ultrasound follow-up regime is included in the surveillance table below; the duration of groin USS is left to clinician discretion however 12 months is likely to be sufficient to assess groin failure after SLNB.

Careful visual examination of the vulva and palpation of groin lymph nodes is the mainstay of post-treatment surveillance. If local recurrence is suspected, this should be confirmed with a biopsy and further management determined by the Gynaeoncology MDT. As stated above groin ultrasound can be useful to detect asymptomatic groin recurrence in patients treated with SLNB for the first 2 years. After this time or in patients treated with full inguinofemoral node dissection suspected recurrence in the groin can be assessed with groin ultrasound and/or CT CAP or PET/CT. CT CAP or PET/CT is preferred if more distant spread is suspected. Careful counselling of patients about symptoms and the need for early re-presentation if concerns arise is important, as is ensuring on-going follow-up in general practice to pick up later recurrences.

Patients with pre-invasive vulvar disease such as HPV related vulvar intra-epithelial neoplasia (aka VIN/VIN2-3/HSIL) and lichen sclerosis related vulvar dysplasia (dVIN) also require on-going surveillance. Recurrence rates after treatment range from 9 -50% and are higher in patients with positive margins [28].

In patients with HPV related dysplasia, smoking is a major risk factor for recurrence. Smoking cessation advice should be offered to all patients. Patients with lichen sclerosis need aggressive treatment of their underlying condition. Good control of the inflammatory process reduces the risk of progression to dVIN and/or malignancy [29]. High potency steroids should be used topically. A suggested regime is daily topical use over the vulvar skin when symptomatic flaring occurs and maintenance application of weekly topical steroid even in the absence of symptoms. The suggested ultrapotent topical steroid is clobetasone propionate 0.05% for severe/moderate disease (will require a compounding chemist prescription) or potent steroid mometasone furoate 0.1% for milder disease [30]. Further advice should be given about using non-soap cleanser, and avoiding other vulvar irritants.

Further attention should be directed to assessment of psycho-social and lifestyle issues at each visit. Specific questions should be asked if appropriate regarding psychological distress (fear of living with

uncertainty), sexual dysfunction, menopausal symptoms and other physical symptoms that might be a result of treatment such as lymphoedema.

Common symptoms / signs of vulvar cancer recurrence (1)	
Local	Pruritis
Distant	Leg or groin pain Urinary symptoms Leg lymphoedema Weight loss Cough

Recommended Surveillance Schedule for Vulvar cancers and Pre-invasive vulvar disease **Patients with recurrences during follow-up or dVIN may require longer in hospital follow up*	0-1 Years	1-2 years	2-3 years	3-5 years	5-10 years
Pre-invasive	6 monthly	Yearly	Yearly	Discharge to GP care Annual GP visit for clinical review and genital examination *	GP care
Stage 1A – surgical only	4 monthly	6 monthly	6 monthly	Yearly	Discharge to GP care Annual GP visit for clinical review and genital examination
Stage 1B/2 – surgical only *Imaging*	3 monthly 2-3 monthly groin USS if treated with sentinel groin lymph node procedure for 12 -24 months	4 monthly	6 monthly	Yearly	Discharge to GP care Annual GP visit for clinical review and genital examination
High risk – primary or adjuvant RT **(alternate with radiation oncology)**	3 monthly	4 monthly	6 monthly	Yearly	Discharge to GP care Annual GP visit for clinical review and genital examination
Imaging	Not routinely indicated without symptoms. CT CAP or PET/CT preferred if recurrence suspected				

Cervical / Vaginal Cancer

Cervical cancers account for 1.4% of female cancer diagnoses in 2019 [31]. These cancers are almost uniformly HPV related and screen preventable. Many women presenting with cervical malignancies have not participated or only sporadically participated in the cervical screening program.

In general stage 1 disease is treated with surgery and higher stages with combined chemotherapy and radiation. Most recurrences (75%) will occur in the first 2-3 years after primary treatment [32, 33]. In the case of patients with primary surgical treatment and local recurrence, salvage radiation treatment can be curative so early detection is important. Higher stage patients treated with primary chemoradiation will have visits will be carried out on an alternating basis with radiation oncology as per the schedule below.

Routine follow-up examination has a low yield in diagnosing recurrence (26-36% of cases) [32] with symptomatic presentation being more common 46-95% [34] (see table below for symptoms). Therefore, counselling of women about the signs and symptoms of possible recurrence is an important part of surveillance. Clinical assessment and physical examination is the mainstay of surveillance; examination should include a complete assessment of the genital tract susceptible to HPV infection, bimanual +/- rectal examination. Routine imaging in the absence of symptoms/signs is not recommended.

The use of HPV testing and cytology has a low yield for detection of recurrence [33, 34], but could be used annually in patients treated with surgery alone. In those women treated with primary radiation, routine cytology is not recommended as cytology can be difficult to interpret in the context of radiation, and yield is low. There is insufficient evidence to recommend HPV testing in this group [33].

Further attention should be directed to assessment of psycho-social and lifestyle issues at each visit. Specific questions should be asked if appropriate regarding psychological distress (fear of living with uncertainty), sexual dysfunction, menopausal symptoms and other physical symptoms that might be a result of treatment such as lymphoedema, bowel and bladder dysfunction. HRT is safe and should be considered in all patients who have had premature menopause as a consequence of treatment.

Common symptoms / signs of cervical / vaginal cancer recurrence (1)

Local	Vaginal bleeding
Distant	Pain (abdominal / pelvic) Leg pain / lymphoedema Urinary symptoms Weight loss Cough

Recommended Surveillance Schedule for Cervical / Vaginal Cancers	0-1 Years	1-2 years	2-3 years	3-5 years	5-10 years
Low/intermediate risk – surgical only					
Stage 1A1	6 monthly	Yearly	Discharge to GP care. Annual GP visit for clinical review and pelvic examination	GP care	GP care
Stage 1A2/1B	4 monthly	4 monthly	6 monthly	Yearly	Discharge to GP care. Annual GP visit for clinical review and pelvic examination
Vaginal cytology	Yearly	Yearly	Yearly	Yearly	Yearly for 10 years
High risk – primary or adjuvant Chemo/RT **(alternate with radiation oncology)**	4 monthly	4 monthly	6 monthly	Yearly	Discharge to GP care Annual GP visit for clinical review and pelvic examination
Cervical / Vaginal Cytology	Not indicated				
Imaging	Not routinely indicated without symptoms. C CAP or PET/CT preferred if recurrence suspected				

Uterine Sarcomas

Uterine sarcomas are malignant mesenchymal tumours and include endometrial stroma sarcomas, undifferentiated uterine sarcoma and uterine leiomyosarcoma. In total they account for 1-2% of all uterine malignancies [35], but have a poorer prognosis. Uterine leiomyosarcomas are the most common, but have a higher recurrence risk even in early stages [36]. The most common sites of recurrence include lungs, pelvis, and liver. The use of imaging is recommended without high level evidence [37]; and could be omitted in patients with lower risk diagnoses such as early stage, low grade endometrial stromal sarcomas.

Recommended Surveillance Schedule for Cervical / Vaginal Cancers					
	0-1 Years	**1-2 years**	**2-3 years**	**3-5 years**	**5-10 years**
All stages (alternate with medical oncology if adjuvant treatment is recommended)	3 monthly	4 monthly	6 monthly	6 monthly	Discharge to GP care Annual GP visit for clinical review and pelvic examination
Imaging	6 month post treatment CT CAP	18 month post treatment CT CAP	36 month post treatment CT CAP	Not routinely indicated without symptoms. CT CAP referred if required	

References

1. Salani, R., et al., An update on post-treatment surveillance and diagnosis of recurrence in women with gynecologic malignancies: Society of Gynecologic Oncology (SGO) recommendations. Gynecol Oncol, 2017. **146**(1): p. 3-10.

2. Howlader N, N.A., Krapcho M, Miller D, Brest A, Yu M, Ruhl J, Tatalovich Z, Mariotto A, Lewis DR, Chen HS, Feuer EJ, Cronin KA (eds). SEER Cancer Statistics Review, 1975-2016, National Cancer Institute. Bethesda, MD, . https://seer.cancer.gov/csr/1975_2016/, based on November 2018 SEER data submission, posted to the SEER web site.

3. Fung-Kee-Fung, M., et al., Follow-up after primary therapy for endometrial cancer: a systematic review. Gynecol Oncol, 2006. **101**(3): p. 520-9.

4. Sartori, E., et al., Pattern of failure and value of follow-up procedures in endometrial and cervical cancer patients. Gynecol Oncol, 2007. **107**(1 Suppl 1): p. S241-7.

5. Coleridge, S. and J. Morrison, Patient-initiated follow-up after treatment for low risk endometrial cancer: a prospective audit of outcomes and cost benefits. International Journal of Gynecologic Cancer, 2020. **30**(8): p. 1177-1182.

6. Hunn, J., et al., Patterns and utility of routine surveillance in high grade endometrial cancer. Gynecol Oncol, 2015. **137**(3): p. 485-9.

7. Tjalma, W.A., et al., The clinical value and the cost-effectiveness of follow-up in endometrial cancer patients. Int J Gynecol Cancer, 2004. **14**(5): p. 931-7.

8. Salani, R., et al., Recurrence patterns and surveillance for patients with early stage endometrial cancer. Gynecol Oncol, 2011. **123**(2): p. 205-7.

9. Morice, P., et al., Value and cost evaluation of routine follow-up for patients with clinical stage I/II endometrial cancer. Eur J Cancer, 2001. **37**(8): p. 985-90.

10. Frimer, M., et al., The clinical relevance of rising CA-125 levels within the normal range in patients with uterine papillary serous cancer. Reproductive sciences (Thousand Oaks, Calif.), 2013. **20**(4): p. 449-455.

11. Ureyen, I., et al., The Factors Predicting Recurrence in Patients With Serous Borderline Ovarian Tumor. Int J Gynecol Cancer, 2016. **26**(1): p. 66-72.

12. du Bois, A., et al., Borderline tumours of the ovary: A cohort study of the Arbeitsgmeinschaft Gynäkologische Onkologie (AGO) Study Group. Eur J Cancer, 2013. **49**(8): p. 1905-14.

13. Song, T., et al., Borderline ovarian tumor in women aged ≥ 65 years: impact on recurrence and survival. Eur J Obstet Gynecol Reprod Biol, 2015. **184**: p. 38-42.

14. Tang, A., et al., Prognostic value of elevated preoperative serum CA125 in ovarian tumors of low malignant potential: a multinational collaborative study (ANZGOG0801). Gynecol Oncol, 2012. **126**(1): p. 36-40.

15. May, J., et al., Borderline Ovarian Tumors: Fifteen Years' Experience at a Scottish Tertiary Cancer Center. Int J Gynecol Cancer, 2018. **28**(9): p. 1683-1691.

16. Rousset-Jablonski, C., P. Pautier, and N. Chopin, [Borderline Ovarian Tumours: CNGOFS Guidelines for Clinical Practice - Hormonal Contraception and MHT/HRT after Borderline Ovarian Tumour]. Gynecol Obstet Fertil Senol, 2020.

17. Coleman, R.L., et al., A phase III randomized controlled trial of secondary surgical cytoreduction (SSC) followed by platinum-based combination chemotherapy (PBC), with or without bevacizumab (B) in platinum-sensitive, recurrent ovarian cancer (PSOC): A NRG

Oncology/Gynecologic Oncology Group (GOG) study. Journal of Clinical Oncology, 2018. **36**(15_suppl): p. 5501-5501.

18. Bois, A.D., et al., Randomized controlled phase III study evaluating the impact of secondary cytoreductive surgery in recurrent ovarian cancer: AGO DESKTOP III/ENGOT ov20. Journal of Clinical Oncology, 2017. **35**(15_suppl): p. 5501-5501.

19. Pujade-Lauraine, E., et al., Olaparib tablets as maintenance therapy in patients with platinum-sensitive, relapsed ovarian cancer and a BRCA1/2 mutation (SOLO2/ENGOT-Ov21): a double-blind, randomised, placebo-controlled, phase 3 trial. Lancet Oncol, 2017. **18**(9): p. 1274-1284.

20. Gadducci, A., et al., Surveillance procedures for patients treated for epithelial ovarian cancer: a review of the literature. Int J Gynecol Cancer, 2007. **17**(1): p. 21-31.

21. Rustin, G.J., et al., Early versus delayed treatment of relapsed ovarian cancer (MRC OV05/EORTC 55955): a randomised trial. Lancet, 2010. **376**(9747): p. 1155-63.

22. NCCN guidelines for ovarian cancer. https://www2.tri-kobe.org/nccn/guideline/gynecological/english/ovarian.pdf.

23. Ray-Coquard, I., et al., Gynecologic Cancer InterGroup (GCIG) Consensus Review for Ovarian Sex Cord Stromal Tumors. International Journal of Gynecologic Cancer, 2014. **24**(Supp 3): p. S42-S47.

24. Beller, U., et al., Carcinoma of the vulva. FIGO 26th Annual Report on the Results of Treatment in Gynecological Cancer. Int J Gynaecol Obstet, 2006. **95 Suppl 1**: p. S7-27.

25. Te Grootenhuis, N.C., et al., Sentinel nodes in vulvar cancer: Long-term follow-up of the GROningen INternational Study on Sentinel nodes in Vulvar cancer (GROINSS-V) I. Gynecol Oncol, 2016. **140**(1): p. 8-14.

26. Van der Zee, A.G., et al., Sentinel node dissection is safe in the treatment of early-stage vulvar cancer. J Clin Oncol, 2008. **26**(6): p. 884-9.

27. Pouwer, A.W., et al., The efficacy of ultrasound in the follow up after a negative sentinel lymph node in women with vulvar cancer: a prospective single-centre study. BJOG : an international journal of obstetrics and gynaecology, 2018. **125**(11): p. 1461-1468.

28. Committee Opinion No.675: Management of Vulvar Intraepithelial Neoplasia. Obstet Gynecol, 2016. **128**(4): p. e178-82.

29. Lee, A., J. Bradford, and G. Fischer, Long-term Management of Adult Vulvar Lichen Sclerosus: A Prospective Cohort Study of 507 Women. JAMA Dermatol, 2015. **151**(10): p. 1061-7.

30. Lichen Sclerosus. https://dermnetnz.org/topics/lichen-sclerosus/.

31. Cervical Cancer Statistics. Cancer Australia. https://cervical-cancer.canceraustralia.gov.au/statistics.

32. Duyn, A., et al., Recurrent cervical cancer: detection and prognosis. Acta Obstet Gynecol Scand, 2002. **81**(8): p. 759-63.

33. Elit, L., et al., Follow-up for women after treatment for cervical cancer. Current oncology (Toronto, Ont.), 2010. **17**(3): p. 65-69.

34. Zanagnolo, V., et al., Surveillance procedures for patients for cervical carcinoma: a review of the literature. Int J Gynecol Cancer, 2009. **19**(3): p. 306-13.

35. Koh, W.J., et al., Uterine Sarcoma, Version 1.2016: Featured Updates to the NCCN Guidelines. J Natl Compr Canc Netw, 2015. **13**(11): p. 1321-31.

36. Hensley, M.L., et al., Adjuvant therapy for high-grade, uterus-limited leiomyosarcoma: results of a phase 2 trial (SARC 005). Cancer, 2013. **119**(8): p. 1555-61.

37. Uterine neoplams. https://www2.tri-kobe.org/nccn/guideline/gynecological/english/uterine.pdf.

Appendix Documents

Guideline Summary Document

Cancer subtype	0-1 years	1-2 years	2-3 years	3-5 years	>5 years
Endometrial					
Stage 1A, Grade 1/2	Single 6 month visit Discharge to GP care Annual GP visit for clinical review and pelvic examination	GP care	GP care	GP care	GP care
Stage 1B, Grade 1/2	6 monthly	6 monthly	Yearly	Discharge to GP care Annual GP visit for clinical review and pelvic examination	GP care
Stage 2, Grade 1/2	6 monthly	6 monthly	Yearly	Discharge to GP care Annual GP visit for clinical review and pelvic examination	GP care
Stage 3 or 4 (any Grade) or Grade 3, serous, clear cell (any stage) **(alternate with medical or radiation oncology)**	4 monthly	6 monthly	6 monthly	Yearly	Discharge to GP care Annual GP visit for clinical review and pelvic examination
Vaginal cytology	Not indicated				

Imaging	Not routinely indicated without symptoms. CT CAP or PET/CT preferred if required				
Borderline Ovarian tumours (BOT)					
Fertility preserving surgery	6 monthly	Yearly	Yearly	Discharge to GP care # Annual GP visit for clinical review and pelvic examination	GP care #
Pelvic USS	6 monthly	Yearly	Yearly	Yearly	Yearly
Tumour markers	6 monthly	Yearly	Yearly	Yearly	Yearly
BOT with extra-ovarian disease (completion surgery or fertility sparing surgery)	6 monthly	6 monthly	6 monthly	Yearly	Discharge to GP care # Annual GP visit for clinical review and pelvic examination
Tumour markers	6 monthly	6 monthly	6 monthly	Yearly	Yearly
Imaging	6 monthly Pelvic USS if residual ovary No routine imaging if completion surgery. CT CAP preferred if recurrence suspected	6 monthly Pelvic USS if residual ovary	6 monthly Pelvic USS if residual ovary	Yearly Pelvic USS if residual ovary	Yearly Pelvic USS if residual ovary
Completion surgery	Discharge to GP care	GP care	GP care	GP care	GP care

Ca 125	Annual GP visit for clinical review and pelvic examination Yearly	Yearly	Yearly	Yearly	Yearly
Imaging	Not routinely indicated without symptoms. CT CAP preferred if required.				
Cervical/Vaginal					
Low risk – surgical only **Stage 1A1**	6 monthly	Yearly	Discharge to GP care. Annual GP visit for clinical review and pelvic examination	GP care	GP care
Stage 1A2/1B	4 monthly	4 monthly	6 monthly	Yearly	Discharge to GP care. Annual GP visit for clinical review and pelvic examination
Vaginal cytology	Yearly	Yearly	Yearly	Yearly	Yearly for 10 years
High risk – primary or adjuvant Chemo/RT **(alternate with radiation oncology)**	4 monthly	4 monthly	6 monthly	Yearly	Discharge to GP care Annual GP visit for clinical review and pelvic examination
Cervical/vaginal cytology	Not indicated				
Imaging					

	Not routinely indicated without symptoms	CT CAP or PET/CT preferred if required			
Vulva					
Stage 1A – surgical only	4 monthly	6 monthly	6 monthly	Yearly	Discharge to GP care Annual GP visit for clinical review and genital examination
Stage 1B/2 – surgical only *Imaging*	3 monthly 2-3 monthly groin ultrasound if treated with sentinel groin lymph node procedure for 12 -24 months	4 monthly	6 monthly No routine imaging indicated without symptoms	Yearly	Discharge to GP care Annual GP visit for clinical review and genital examination
High risk – primary or adjuvant RT **(alternate with radiation oncology)**	3 monthly	4 monthly	6 monthly	Yearly	Discharge to GP care Annual GP visit for clinical review and genital examination
Imaging	Not routinely indicated without symptoms	CT CAP or PET/CT preferred if required			

Epithelial ovarian cancer					
All stages (alternate with medical oncology if chemotherapy)	3 monthly	4 monthly	6 monthly	6 monthly	Discharge to GP care Annual GP visit for clinical review and pelvic examination
Tumour marker	3 monthly	4 monthly	6 monthly	6 monthly	Yearly
Imaging	Not routinely indicated without symptoms	CT CAP or PET/CT preferred if required			
Germ Cell tumours					
All stages (alternate with medical oncology if chemotherapy)	2 monthly	3 monthly	4 monthly	6 monthly	Discharge to GP care Annual GP visit for clinical review and pelvic examination
Tumour marker	2 monthly	3 monthly	4 monthly	6 monthly	Yearly
Imaging *CXR* *MRI abdo/pelvis (or CT abdo/pelvis)*	3 monthly 3 monthly	4 monthly 4 monthly	Discontinue in absence of symptoms 6 monthly (non-dysgerminomas) Yearly (dysgerminomas)	Discontinue in absence of symptoms 6 monthly (non-dysgerminomas) Yearly (dysgerminomas)	Discontinue in absence of symptoms Not routinely indicated without symptoms
Sex cord stromal tumours					
Early stage, low risk	6 monthly	6 monthly	6 monthly	Discharge to GP care	GP care

				Annual GP visit for clinical review and pelvic examination	
Tumour marker	6 monthly	6 monthly	6 monthly	Yearly	Yearly
Imaging	Not routinely indicated without symptoms	CT CAP preferred if required			
High risk disease (alternate with medical oncology)	4 monthly	6 monthly	6 monthly	6 monthly	Discharge to GP care Annual GP visit for clinical review and pelvic examination
Tumour marker	4 monthly	6 monthly	6 monthly	6 monthly	Yearly
Imaging	Not routinely indicated without symptoms	CT CAP preferred if required			
Uterine sarcoma					
All stages (alternate with medical oncology if adjuvant treatment is recommended)	3 monthly	4 monthly	6 monthly	6 monthly	Discharge to GP care Annual GP visit for clinical review and pelvic examination
Imaging	6 month post treatment CT CAP	18 month post treatment CT CAP	36 month post treatment CT CAP	Not routinely indicated without symptoms CT CAP preferred if required	Not routinely indicated without symptoms CT CAP preferred if required

*Follow-up period commences from end of first line treatment

#GP can refer back/when if wishes completion surgery – appropriate once patient has completed childbearing or is menopausal

Cancer Specific Patient Information Sheets

Monitoring of Endometrial Cancer with your General Practitioner (GP)

A Guide for Mater Health Patients

Congratulations on reaching the end of your hospital-based follow-up! Discharge from outpatients' means that the likelihood of your cancer returning is lower and we feel it is safe for you to have on-going monitoring with your GP. This information leaflet is designed to help you know when to report concerning symptoms to your GP and also how often to go for routine monitoring.

How often to see your GP

We generally recommend you see your GP ONCE a year for a check-up specifically to address your endometrial cancer. This should be done for at least 10 years from when you were first diagnosed with endometrial cancer.

This check-up will generally include a chat with your GP about how you are and any symptoms you may have (see below). We also recommend an examination of your abdomen as well as an internal pelvic examination to look in the vagina.

Routine cervical screening tests (smear or HPV test) or scans are not recommended as they have not been shown to improve detection of cancer recurrence.

Things to watch out for and report to your GP

If you have any concerning symptoms you should see your GP urgently as these may need to be investigated with tests or scans.

- Vaginal bleeding
- Lump or pain in the vagina
- New and persistent pain in your abdominal or pelvic area
- Swelling of your abdomen
- New and persistent cough/chest pain

Your GP will refer you back to Mater Health if your tests or scans show anything of concern. We will arrange an urgent appointment for you in this situation.

Living well after a cancer diagnosis

A diagnosis of cancer is a life changing experience and people often have needs once treatment has ended. Maintaining a healthy BMI and regular exercise are very important. We want you to feel supported once you are discharged from outpatient care. Depression and/or anxiety can occur and we have psychological support services available for you so please let your GP know if you feel you would benefit from this during your monitoring. Likewise sexuality/intimacy may be different after a diagnosis of endometrial cancer and support can also be provided for with these issues. If you have had early menopause due to treatment, further monitoring of bone and cardiovascular health is very important.

Mater Misericordiae Ltd,
Raymond Terrace, South Brisbane Qld 4101
P 07 3163 8111
E info@mater.org.au

Mater acknowledges consumer consultation in the development of this patient information.

Monitoring of Cervical or Vaginal Cancer with your General Practitioner (GP)

A Guide for Mater Health Patients

Congratulations on reaching the end of your hospital based follow-up! Discharge from outpatients' means that the likelihood of your cancer returning is lower and we feel it is safe for you to have on-going monitoring with your GP. This information leaflet is designed to help you know when to report concerning symptoms to your GP and also how often to go for routine monitoring.

How often to see your GP

We generally recommend you see your GP ONCE a year for a check-up specifically to address your cervical or vaginal cancer. This should be done for at least 10 years from when you were first diagnosed with cervical or vaginal cancer.

This check-up will generally include a chat with your GP about how you are and any symptoms you may have (see below). We also recommend an examination of your abdomen as well as an internal pelvic examination to look in the vagina.

Routine scans are not recommended as they have not been shown to improve detection of cancer recurrence. A yearly cervical screening test (co-test) is recommended if you have only had surgery as part of your treatment. If you have had radiation this test is less accurate and can be falsely abnormal.

Things to watch out for and report to your GP

If you have any concerning symptoms you should see your GP urgently as these may need to be investigated with tests or scans.

- Vaginal Bleeding
- New and persistent pain in your abdominal or pelvic area
- Urinary symptoms
- Leg pain / swelling (lymphoedema)
- New and persistent cough / chest pain

Your GP will refer you back to Mater Health if your tests or scans show anything of concern. We will arrange an urgent appointment for you in this situation.

Living well after a cancer diagnosis

A diagnosis of cancer is a life changing experience and people often have needs once treatment has ended. We want you to feel supported once you are discharged from outpatient care. Depression and/or anxiety can occur and we have psychological support services available for you so please let your GP know if you feel you would benefit from this during your monitoring. Likewise sexuality/intimacy may be different after a diagnosis of cervical or vaginal cancer and support can also be provided for with these issues. If you have had early menopause due to treatment, further monitoring of bone and cardiovascular health is very important. HRT could be considered until a natural age of menopause is reached.

Mater Misericordiae Ltd,
Raymond Terrace, South Brisbane Qld 4101
P 07 3163 8111
E info@mater.org.au

Mater acknowledges consumer consultation in the development of this patient information.

Monitoring of Vulvar Cancer with your General Practitioner (GP)

A Guide for Mater Health Patients

Congratulations on reaching the end of your hospital based follow-up! Discharge from outpatients' means that the likelihood of your cancer or pre-cancer returning is lower and we feel it is safe for you to have on-going monitoring with your GP. This information leaflet is designed to help you know when to report concerning symptoms to your GP and also how often to go for routine monitoring.

How often to see your GP

We generally recommend you see your GP ONCE a year for a check-up specifically to address your vulvar cancer or pre-cancer. This should be done for at least 10 years from when you were first diagnosed with vulvar cancer or pre-cancer.

This check-up will generally include a chat with your GP about how you are and any symptoms you may have (see below). We also recommend an examination of your abdomen and groin lymph nodes as well as a check of the vulva.

Routine scans are not recommended as they have not been shown to improve detection of cancer recurrence. You should have routine cervical screening tests if you still have a cervix.

Things to watch out for and report to your GP

If you have any concerning symptoms you should see your GP urgently as these may need to be investigated with tests or scans.

- Bleeding
- Lew lump or pain in the vulva
- Vulval itching
- Leg / groin pain or swelling
- Unexpected weight loss
- New and persistent cough / chest pain

Your GP will refer you back to Mater Health if your tests or scans show anything of concern. We will arrange an urgent appointment for you in this situation.

Living well after a cancer diagnosis

A diagnosis of cancer is a life changing experience and people often have needs once treatment has ended. We want you to feel supported once you are discharged from outpatient care. Depression and/or anxiety can occur and we have psychological support services available for you so please let your GP know if you feel you would benefit from this during your monitoring. Likewise sexuality/intimacy may be different after a diagnosis and treatment of vulvar cancer or pre-cancer and support can also be provided for with these issues. If you have had early menopause due to treatment, further monitoring of bone and cardiovascular health is very important. HRT could be considered until a natural age of menopause is reached.

Mater Misericordiae Ltd,
Raymond Terrace, South Brisbane Qld 4101
P 07 3163 8111
E info@mater.org.au

Mater acknowledges consumer consultation in the development of this patient information.

Monitoring of Ovarian Cancer with your General Practitioner (GP)

A Guide for Mater Health Patients

Congratulations on reaching the end of your hospital based follow-up! Discharge from outpatients' means that the likelihood of your cancer returning is lower and we feel it is safe for you to have on-going monitoring with your GP. This information leaflet is designed to help you know when to report concerning symptoms to your GP and also how often to go for routine monitoring.

How often to see your GP

We generally recommend you see your GP ONCE a year for a check-up specifically to address your ovarian cancer. This should be done for at least 10 years from when you were first diagnosed with ovarian cancer.

This check-up will generally include a chat with your GP about how you are and any symptoms you may have (see below). We also recommend an examination of your abdomen as well as an internal pelvic examination to look in the vagina.

Routine cervical screening tests (smear or HPV test) or scans are not recommended as they have not been shown to improve detection of cancer recurrence. However a yearly tumour marker blood test may be helpful – you should discuss with your GP about whether you wish to have this done.

Things to watch out for and report to your GP

If you have any concerning symptoms you should see your GP urgently as these may need to be investigated with tests or scans.

- Lump or pain in your abdominal or pelvic area
- Swelling/bloating of your abdomen
- Unexpected weight loss
- Loss of appetite
- Change in bowel/bladder habit

Your GP will refer you back to Mater Health if your tests or scans show anything of concern. We will arrange an urgent appointment for you in this situation.

Living well after a cancer diagnosis

A diagnosis of cancer is a life changing experience and people often have needs once treatment has ended. We want you to feel supported once you are discharged from outpatient care. Depression and/or anxiety can occur and we have psychological support services available for you so please let your GP know if you feel you would benefit from this during your monitoring. Likewise sexuality/intimacy may be different after a diagnosis of ovarian cancer and support can also be provided for with these issues. If you have had early menopause due to treatment, further monitoring of bone and cardiovascular health is very important.

Mater Misericordiae Ltd,
Raymond Terrace, South Brisbane Qld 4101
P 07 3163 8111
E info@mater.org.au

Mater acknowledges consumer consultation in the development of this patient information.

Monitoring of Borderline Ovarian Tumour with your General Practitioner (GP)

A Guide for Mater Health Patients

Congratulations on reaching the end of your hospital-based follow-up! Discharge from outpatients' means that the likelihood of your borderline tumour returning is low and we feel it is safe for you to have on-going monitoring with your GP. This information leaflet is designed to help you know when to report concerning symptoms to your GP and also how often to go for routine monitoring.

How often to see your GP

We generally recommend you see your GP ONCE a year for a check-up specifically to address your borderline tumour. This should be done indefinitely from when you were first diagnosed with a borderline tumour. A yearly tumour marker blood test will also be done through your GP. This check-up will generally include a chat with your GP about how you are and any symptoms you may have (see below). We also recommend an examination of your abdomen as well as an internal pelvic examination to look in the vagina.

Routine cervical screening tests (smear or HPV test) or scans are not recommended if you have had both your ovaries and uterus removed as they have not been shown to improve detection of recurrent borderline tumour.

If you still have one or both ovaries inside a yearly pelvic ultrasound scan and a tumour marker blood test may be helpful to show a recurrence so you should arrange these with your GP. If you still have your uterus in place then routine cervical screening should be undertaken.

Things to watch out for and report to your GP

If you have any concerning symptoms you should see your GP urgently as these may need to be investigated with tests or scans.

- Lump or pain in your abdominal or pelvic area
- Change in periods (if uterus still in)
- Swelling of your abdomen
- Change of appetite / nausea
- Unexpected weight loss
- Change in bowel/bladder habit

Your GP will refer you back to Mater Health if your tests or scans show anything of concern. We will arrange an urgent appointment for you in this situation.

If you have had early menopause due to treatment, further monitoring of bone and cardiovascular health is very important. HRT could be considered until a natural age of menopause is reached.

If you have one or both ovaries still inside

Patients who have borderline tumours of the ovary do have a slightly higher risk of developing an ovarian cancer in the future. Some women will opt for removal of both ovaries once they have reached menopause or completed their family. Your GP can refer your back to us in the future if you wish to discuss this further.

Mater Misericordiae Ltd,
Raymond Terrace, South Brisbane Qld 4101
P 07 3163 8111
E info@mater.org.au

Mater acknowledges consumer consultation in the development of this patient information.

Mater Health Recommendations for Surveillance of Gynaecological Cancers in General Practice.

The Mater Health Gynaecological Oncology Service has discharged your patient from hospital outpatient follow up. Current international guidelines recommend a total of 10 years of clinical follow up for most patients with gynaecological malignancies (*Salani et al 2017*).

Common symptoms/signs associated with gynaecological cancer recurrence (Salani et al 2017)

	Endometrial	Ovarian/borderline tumours of ovary	Cervical/Vaginal	Vulvar
Local	Vaginal bleeding	Pelvic nodularity/ass	Vaginal bleeding	New lesion/mass/ulcer
	Vaginal lesion/pain	Change of periods (if uterus still in situ)		Pruritis (Itch)
Distant	Abdominal/pelvic pain	Abdominal distension	Pain (abdominal/pelvic)	Leg or groin pain
	Cough	Pain (abdominal)	Leg pain/lymphedema	Urinary symptoms
	Lethargy	Weight loss	Urinary symptoms	Leg lymphedema
	Abdominal distension	Change in bowel habits	Cough	Weight loss
		Elevated CA 125	Weight loss	Cough

Mater Health Recommendations for routine follow-up and investigation of Gynaecologi
patients in the absence of symptoms/signs (Mater Gynaecological Oncology Service Guide

	Endometrial	Ovarian	Cervical/Vaginal	Vulva	Vulva dysplasia	Borderline tumours of the ovary
Clinical assessment	Annual assessment and vaginal examination for 10 years post end of treatment	Annual assessment and vaginal examination for 10 years post end of treatment	Annual assessment and vaginal examination for 10 years post end of treatment	Annual assessment and vulvar examination for 10 years post end of treatment	Annual assessment and vulvar examination for 10 years post end of treatment	Annual assessment and vaginal examination indefinitely post end of treatment
Cervical Screening	nil	nil	Annual co-test in patients treated with surgery alone Avoid in post pelvic radiation as difficult to accurately interpret	Continue normal screening if cervix in situ	Continue normal screening if cervix in situ	Continue normal screening if cervix in situ
Tumour markers	nil	Annual tumour marker if patient wishes to have testing	nil	nil	nil	Annual Ca 125 tumour marker
Imaging	nil	nil	nil	nil	nil	Annual Pelvic USS only if residual ovary(s)
Misc.			Smoking cessation in HPV related disease	Smoking cessation in HPV related disease	Smoking cessation in HPV related disease	Could refer back to Gynaecological Oncology services if wishes completion surgery once family complete or menopausal

Please refer back any patient with concerning symptoms after appropriate investigations. If you wish to contact our service urgently, then options include Gynaeoncology fellow or on-call consultant via Mater Switchboard or the Gynaeoncology Clinical Nurse Consultant on (07) 3163 2545, or email gynae-oncology@mater.org.au