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Clinical Protocol

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Gynaecologic Oncology Society of Kenya (GOSK) clinical management protocol for vulvar cancer in Kenya: 2026

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Abstract

Objective: To develop a standardized, evidence-based clinical management protocol for vulvar cancer in Kenya through adaptation and contextualization of relevant international clinical practice guidelines.

Methods: The protocol was developed using a guideline adaptation approach to align recommendations from high-quality international clinical practice guidelines with Kenya's healthcare system and resource context. A multidisciplinary development panel comprising gynecologic oncologists, pathologists, radiologists, oncology nurses, pharmacists, radiation oncologists, public health specialists, and patient representatives participated in the process. Panel members received technical training from the University of Nairobi and Kenyatta National Hospital on evidence-based guideline adaptation, including standardized appraisal, systematic evaluation of guidelines, and contextualization to local realities. A systematic search of PubMed and Google Scholar was conducted to identify relevant clinical practice guidelines and supporting evidence. Five guidelines were identified and independently appraised using the Appraisal of Guidelines for Research and Evaluation II (AGREE II) instrument. Three guidelines were selected as source guidelines for adaptation: the British Gynaecological Cancer Society (BGCS) Vulval Cancer Guidelines, the National Comprehensive Cancer Network (NCCN) Clinical Practice Guidelines in Oncology: Vulvar Cancer, and the European Society of Gynaecological Oncology (ESGO) Guidelines for the Management of Vulvar Cancer. The selected guidelines were reviewed and their recommendations adapted and contextualized to the Kenyan healthcare setting.

Results: The resulting protocol addresses the diagnosis, referral, staging, pathology, pre-operative assessment, surgical management, and treatment of vulvar cancer, including local and groin management, sentinel lymph node procedures, reconstructive surgery, chemotherapy, radiotherapy, and systemic therapy. It also addresses the management of recurrent disease at vulvar, inguinal, pelvic, and distant sites, follow-up and survivorship, supportive and palliative care, and selected histological subtypes and clinical circumstances.

Recommendations: The protocol provides evidence-based recommendations for the diagnosis, stage- and histology-specific management, surveillance, and management of recurrent vulvar cancer, contextualized to the Kenyan healthcare and resource setting. It also supports multidisciplinary care, appropriate referral, consideration of clinical trials, and access to emerging treatment approaches where clinically appropriate and available.

Keywords: Kenya; Vulvar cancer; Vulvar melanoma; Vulvar sarcoma

List of abbreviations

Abbreviation	Full term
AGREE II	Appraisal of Guidelines for Research and Evaluation II
ASR	Age-standardized incidence rate
BGCS	British Gynaecological Cancer Society
CCRT	Concurrent chemoradiotherapy
CEA	Carcinoembryonic antigen
CK5/6	Cytokeratin 5/6
CK7	Cytokeratin 7
CT	Computed tomography
dVIN	Differentiated vulvar intraepithelial neoplasia
ECOG	Eastern Cooperative Oncology Group
ESGO	European Society of Gynaecological Oncology
FIGO	International Federation of Gynecology and Obstetrics
GLOBOCAN	Global Cancer Observatory
HIV	Human immunodeficiency virus
HPV	Human papillomavirus
HSIL	High-grade squamous intraepithelial lesion
IFLN	Inguinofemoral lymph nodes
LVSI	Lymphovascular space invasion
MDT	Multidisciplinary team
Melan-A	Melanoma antigen recognized by T-cells
MRI	Magnetic resonance imaging
MTRH	Moi Teaching and Referral Hospital
NCCN	National Comprehensive Cancer Network
PD-L1	Programmed death-ligand 1
PET-CT	Positron emission tomography–computed tomography
RCOG	Royal College of Obstetricians and Gynaecologists
RT	Radiotherapy
SCC	Squamous cell carcinoma
SLNB	Sentinel lymph node biopsy
SOX10	SRY-box transcription factor 10
S100	S100 calcium-binding protein
VIN	Vulvar intraepithelial neoplasia

Summary of recommendations

These recommendations provide a concise overview of the GOSK approach to the diagnosis and management of vulvar cancer in Kenya. They are intended to support healthcare providers involved in the care of patients with suspected or confirmed vulvar cancer across different levels of the healthcare system. The recommendations cover diagnostic evaluation, histopathological assessment, staging, primary treatment, surveillance, management of recurrent disease, and supportive and palliative care. Detailed recommendations and supporting evidence are provided in Sections 6 and 7.

Table 1. Summary of GOSK recommendations for diagnostic considerations for vulvar cancer

Diagnostic parameter	GOSK recommendations
Clinical evaluation	• A comprehensive clinical history must be obtained, including symptom duration, vulvar pruritus, pain, bleeding, discharge, ulceration, dysuria, dyspareunia, and presence of a vulvar mass or lesion. • Evaluate for the risk factors associated with vulvar malignancy, including persistent HPV infection, chronic vulvar dermatoses (particularly lichen sclerosus), smoking history, immunosuppression (including HIV infection), and previous vulvar intraepithelial neoplasia (VIN). • A complete pelvic examination must be performed to assess lesion size, multifocality, ulceration, fixation to adjacent structures, and involvement of the vagina, cervix, urethra, perineum, or anus. Bilateral inguinofemoral lymph nodes must be evaluated for regional lymphadenopathy. • A complete systemic physical examination should be conducted to identify evidence of distant metastatic spread.
Biopsy	• Perform a punch or incisional biopsy for all suspicious lesions to obtain histopathological confirmation using a Keyes punch. In highly selected cases with small, unifocal lesions less than 2 cm, where a 1 cm lesion-free margin can be achieved, consider excisional biopsy as an alternative diagnostic approach in low-resource settings or when follow-up may not be possible. • The biopsy procedure must obtain tissue of sufficient depth to permit comprehensive evaluation of the basement membrane and underlying stroma. • For all confirmed or suspected cancer of the vulva, where immunohistochemistry is available, perform p53 and p16 to differentiate HPV-associated lesions from HPV-independent pathways. • In cases of multifocal disease perform examination under anesthesia. Obtain multiple biopsies from distinct affected areas and ensure representative sampling. Biopsy all suspicious sites showing a cauliflower-like texture, irregular mass, chronic non-healing ulcer with raised edges, or thick, scaly white plaque (leukoplakia) with rough, variegated pigmentation. • Perform a digital rectal exam. Assess for abnormal mucosa, nodular texture, and fixation. Perform proctoscopy and obtain a biopsy for suspicious lesions. If the patient has urinary symptoms, perform cystoscopy and sample suspicious lesions. • Systematically assess the cervix, vagina, and endometrium to screen for synchronous or metachronous lesions and detect coexisting abnormalities in the reproductive tract. This should include screening modalities for cervical and vaginal cancer. Consider endometrial sampling for patients with abnormal uterine bleeding. • Perform vulvoscopy with 3% to 5% acetic acid or Lugol's iodine to improve visualization of occult disease. Biopsy all abnormal lesions to distinguish benign inflammatory changes from malignant transformation.
Additional laboratory tests	• HIV testing should be offered for comprehensive management. • Baseline laboratory investigations should include a complete blood count, renal function tests, and liver function tests. • When available, perform HPV DNA testing to identify the underlying etiology and guide prognosis.
Staging	• All confirmed cases of vulvar carcinoma should be classified according to the FIGO 2021 staging system. • For patients with Stage IB or higher disease, pelvic Magnetic Resonance Imaging (MRI) is recommended where available, to assess the local extent of the primary tumor. Where MRI is unavailable, a pelvic computed tomography (CT) with contrast may be done. • Computed tomography (CT) with contrast of the abdomen, pelvis, and chest should be done to detect distant metastases and for staging. In resource-limited settings, a chest X-ray may be used as an alternative to a chest CT where clinically appropriate. • Positron emission tomography-computed tomography (PET-CT) may be done when accessible for disease staging. • Perform vulvectomy or wide local excision, and nodal assessment for all operable tumors staged FIGO 1B to 3B. For Stage 1B lateralized tumors (more than 2 cm from the midline), perform an ipsilateral sentinel lymph node biopsy (SLNB) as a targeted diagnostic method. For central tumors within 2 cm of the midline, perform bilateral SLNB. If SLNB is positive or unavailable, perform a complete bilateral

Diagnostic parameter	GOSK recommendations
	inguinofemoral lymph node dissection. For Figo stage 2 to Stage 3B, perform bilateral complete inguinofemoral nodal dissection.
Multidisciplinary team	• All patients with histologically confirmed cancer of the vulva should be discussed in a multidisciplinary team (MDT) before initiation of treatment. • The MDT should consist of gynecologic oncologists, specialized pathologists, radiologists, and other relevant specialists who jointly review clinical findings, histopathology, and imaging. • The MDT should discuss diagnostic modalities, surgical interventions, adjuvant therapies, and supportive management strategies for each patient.

Table 2. Summary of GOSK recommendations for treatment modalities for vulvar cancer

Clinical domain	GOSK recommendations
Early-stage vulvar cancer FIGO Stage I-II (Squamous cell, basal cell, and adenocarcinoma)	• All patients with confirmed vulvar cancer must be managed within a specialist center, with a gynecologic oncologist serving as the lead of the multidisciplinary team. • For all resectable stages, perform wide local excision or radical vulvectomy with a 1 cm surgical margin. Perform re-excision if histopathological margins are positive. Engage reconstructive surgeons to perform flap procedures to optimize cosmesis and sexual function in the case of extensive defects. For Stage II tumors involving midline structures, perform urinary or fecal diversion as indicated. • For FIGO Stage 1A, perform a wide local excision, ensuring at >1 cm surgical margins. For Stage IB and tumor size less than 4cm, surgically assess the groin using a complete inguinofemoral lymph node dissection or a sentinel lymph node biopsy (SLNB). For lateralized tumors, if SLNB is unavailable or the nodes are positive, perform ipsilateral node dissection. Perform SLNB or bilateral groin dissection if the primary lesion is within 2 cm of the midline. If SLNB nodes are positive, proceed to complete bilateral nodal dissection (10–13 nodes per groin). • Use definitive concurrent chemoradiotherapy as the primary treatment for patients with unresectable tumors or those medically unfit for major surgery. • Deliver adjuvant concurrent chemoradiotherapy (CCRT) with weekly Cisplatin (50 mg/m²) or Carboplatin AUC 2 for 6 cycles for patients with surgical margins less than 10 mm, close (<8mm) or positive histological margins or lymphovascular space invasion. • Pathologically positive lymph nodes should be managed as locally advanced disease (Stage 3).
Locally advanced vulvar cancer FIGO Stage III-IVA (Squamous cell, basal cell and adenocarcinoma)	• Perform complete surgical resection with bilateral inguinal-femoral lymphadenectomy for primary treatment. In advanced, unresectable, or metastatic disease, limit surgery to palliative debulking, symptom relief, or selective pelvic exenteration in specialized centers for central disease. • Administer adjuvant therapy for patients with positive margins, extra-nodal involvement, or lymphovascular space invasion (LVSI). Deliver concurrent chemoradiotherapy (CCRT) with weekly Cisplatin (50 mg/m²) or Carboplatin AUC 2 for 6 cycles. For advanced or metastatic cases (FIGO 3C and 4A), employ combination therapy with Cisplatin (50 mg/m²) and Paclitaxel (175 mg/m²) for 6 cycles, plus Bevacizumab (15 mg/kg) and Pembrolizumab (200 mg every 3 weeks or 400 mg every 6 weeks) until there is disease progression or unacceptable toxicity. Consider neoadjuvant chemotherapy to downstage tumors prior to reassessment. • Reserve standalone radiotherapy for patients with poor performance status (ECOG ≥ 3).
Metastatic disease Stage IV	• Surgical Intervention: Restrict surgical intervention to palliative operations indicated for symptom management. • Systemic Therapy: Administer 6 cycles of platinum-based therapy (Cisplatin 50mg/m² and Paclitaxel 175mg/m² every 21 days). Consider Bevacizumab (15 mg/kg) and Pembrolizumab (200 mg every 3 weeks or 400 mg every 6 weeks) until there is disease progression or unacceptable toxicity. • Radiation Control: Deliver targeted palliative radiotherapy restricted to fields requiring localized symptom and pain control.
Vulvar Melanoma	• Perform wide local excision or vulvectomy for Stage I and II vulvar melanoma with 1–2 cm margins. Conduct sentinel lymph node biopsy or bilateral inguinofemoral lymphadenectomy according to tumor depth and ulceration. For high-risk, close, or positive margins, especially in Stage II disease with invasion >4 mm—administer adjuvant single-agent PD-1 inhibitor therapy with Pembrolizumab (200 mg for up to 35 cycles) or Nivolumab (240 mg every 2 weeks or 480 mg every 4 weeks for 12 months) or until there is disease progression or unacceptable toxicity.

Clinical domain	GOSK recommendations
	• Perform a wide local excision or radical vulvectomy combined with full inguinal-femoral lymph node dissection for AJCC STAGE III disease. Initiate systemic therapy with upfront combination immunotherapy Nivolumab (1mg/kg every 3 weeks) and Ipilimumab (3mg/kg every 3 weeks) for 4 cycles then maintenance therapy with Nivolumab 240mg every 2 weeks until there is disease progression or unacceptable toxicity. For BRAF V600E mutations, administer targeted agents Dabrafenib (150 mg twice daily) and Trametinib (2 mg once daily) until there is disease progression or unacceptable toxicity. • For Stage IV vulvar melanoma, limit surgical intervention to symptom management of local disease. Use dual checkpoint inhibition or targeted therapy administer Nivolumab (1mg/kg every 3 weeks) and Ipilimumab (3mg/kg every 3 weeks) for 4 cycles then Nivolumab 240mg every 2 weeks until there is disease progression or unacceptable toxicity. For BRAF V600E mutations, administer targeted agents Dabrafenib (150 mg twice daily) and Trametinib (2 mg once daily) until there is disease progression or unacceptable toxicity. Employ radiotherapy exclusively for palliation of visceral or bone metastases.
Vulvar sarcoma	• Perform radical wide excision with histologically clear margins of at least 1 cm, immediately integrating a multidisciplinary team for reconstruction or involvement of the urinary tract or anal sphincter. Restrict regional lymph node dissection to high-grade or advanced cases. • Administer adjuvant radiotherapy for high-risk features like close histopathological margins(8mm) or large tumor volume(>5cm). • Initiate adjuvant chemotherapy for high-risk features like close histopathological margins(8mm) or large tumor volume(>5cm). • 1st line: Administer doxorubicin 20 mg/m^2 Days 1-3 every 21 days for 6 cycles. • For patients with poor tolerance to doxorubicin: Administer gemcitabine 750–900 mg/m^2 on Days 1 and 8, and docetaxel 75–100 mg/m^2 on Day 8, every 21 days for 6 cycles.
Verrucous carcinoma of the vulva	• Treat verrucous vulvar cancer exclusively with complete surgical excision or vulvectomy. Ensure histologically clear margins of at least 1 cm to prevent local recurrence. Omit routine inguinofemoral lymph node dissections. • Radiotherapy is contraindicated as it may induce neoplastic transformation.
Reconstruction	• Reconstruction: Patients requiring extensive tissue resection, plastic and reconstructive surgeons must be integrated into the surgical team to perform specialized vulvar reconstruction, such as V-Y advancement or lotus petal flaps, to optimize both functional and cosmetic outcomes.
Fertility considerations	• To preserve fertility and the uterus, premenopausal patients should receive thorough reproductive counseling, pre-treatment embryo or oocyte freezing, laparoscopic ovarian transposition, use of GnRH agonists, and modern radiotherapy methods to minimize exposure of reproductive organs during and after treatment.
Vulvar Cancer in Pregnancy.	• Pregnant women diagnosed with vulvar cancer should be managed by a multidisciplinary team, including gynecologic oncologists, maternal-fetal medicine specialists, and neonatologists. For local staging, a pelvic MRI without gadolinium is recommended, while CT scans should be avoided during pregnancy. • For treatment, perform wide local excision with 1–2 cm margins and consider sentinel lymph node biopsy using low-dose technetium-99m when available. Full lymph node dissection and radiation therapy should be postponed for six to eight weeks after delivery, unless lymph node involvement is suspected. Elective cesarean section should be considered for large tumors or to reduce the risk of wound complications following recent perineal surgery.

Table 3. Summary of GOSK recommendations for follow-up and survivorship

Clinical domain	GOSK recommendations
Surveillance	• Clinical evaluations should be performed every three to six months during years one and two, followed by a biannual frequency for years three through five. Beyond the five-year mark, lifelong annual screening should be done to monitor for recurrence or secondary malignancies. These assessments must incorporate comprehensive physical examinations and diagnostic imaging as clinically indicated by the patient's status. Follow-up frequency may be individualized according to disease stage, treatment received, performance status and risk of recurrence. • Surveillance should include a symptom review and a comprehensive physical examination to assess for residual disease, recurrence, treatment-related complications, and disease progression. • Imaging with MRI, contrast-enhanced CT, or PET-CT may be performed within 3–6 months following completion of treatment or earlier as clinically indicated. PET-CT may be considered in selected patients with suspected recurrence. • Annual cervical cytology + HPV testing is recommended for detection of lower genital tract dysplasia.

Clinical domain	GOSK recommendations
	• HPV vaccination should be offered to all eligible women. • Long-term treatment-related toxicities should be assessed during all follow-up visits and managed, including sexual dysfunction, vaginal stenosis, bowel dysfunction, urinary complications, lymphoedema, and psychosocial effects. • Symptom management should focus on pain, nausea and vomiting, constipation, fatigue, and other treatment- or disease-related symptoms. • Patients should receive health education on symptoms of recurrence such as abnormal vaginal discharge or bleeding, pelvic or low back pain, presence of a vulval mass, anorexia, weight loss, persistent cough, hematuria or rectal bleeding. • Advice on healthy lifestyle behaviours; exercise, nutrition, and smoking cessation; weight management; and sexual health, including the use of vaginal dilators, lubricants, moisturizers, and hormone therapy should be given. • Optimal management must follow a multidisciplinary framework to address psychosocial concerns, complex wound care, and nutritional needs. In patients with a terminal prognosis, the clinical focus should shift to structured end-of-life care and palliative support.

Table 4. Summary of GOSK recommendations for management of recurrent vulvar cancer

Clinical domain	GOSK recommendations
Recurrent disease	• Recurrent disease should be confirmed histologically before initiation of treatment. • A comprehensive history and a thorough general and pelvic examination must be done. A complete pelvic examination must be performed, including speculum, bimanual, and digital rectal examination. • Cystoscopy and proctoscopy should be done for patients with urinary and gastrointestinal symptoms. • All abnormal lesions should be biopsied and sent for histopathology. Where available perform additional molecular testing (p40, p63, CK5/6, SOX10, S100, Melan-A, HMB-45, CK7, CEA, Ki-67, and PD-L1) may be considered for recurrent, advanced, or metastatic disease, or for rare histological subtypes, to guide targeted therapy selection. • Imaging should be performed to determine the site and extent of recurrence, assess distant metastases, and guide treatment planning. MRI, contrast-enhanced CT or PET-CT may be considered based on clinical indication and resource availability. • A multidisciplinary team review should be done for all patients with recurrent disease. **Surgical intervention**: • Perform immediate surgical resection for all localized, resectable lesions if clear margins can be achieved. • Surgical resection must be performed for patients with operable nodal disease. For inoperable presentations, management shifts to systemic chemotherapy or definitive CCRT. **Radiotherapy**: • For Radiation-Naive: Administer adjuvant radiotherapy immediately following resection or as primary treatment for patients who are poor candidates for surgery. For those who have previously received radiotherapy consider repeat radiation in consultation with a radio-oncologist or administer systemic therapy. **Systemic therapy**: • ***Squamous, basal cell, and adenocarcinoma***: • 1st line: Administer doublet chemotherapy carboplatin AUC 4-6 or Cisplatin 70mg/m2 and Paclitaxel 175mg/m2 for platinum sensitive disease or Cisplatin(50mg/m2) and gemcitabine (800-1250mg/m2 day 1 and 8 every 21 days) for 6 cycles. • 2nd line: For platinum-resistant disease, consider paclitaxel 175mg/m2 monotherapy for 6 cycles, and Pembrolizumab 200mg IV every 21 days or 400mg IV every 42 days until disease progression or unacceptable toxicity for tumors expressing the PD-L1 biomarker. • 3rd line: administer gemcitabine (800-1250mg/m2 on days 1 and 8 every 21 days) or fluorouracil (1000mg/m2 on days 1-4 every 28 days) as monotherapy for 6 cycles. • For chemo resistant disease, administer oral erlotinib (150mg daily until disease progression or unacceptable toxicity) to target epidermal growth factor receptor overexpression. ***For sarcomas***: • First-line: systemic anthracycline-based chemotherapy using doxorubicin (60mg/m^2 on Day 1-3) alone or combined with ifosfamide (1800mg/m^2 on Day 1-5) and Mesna (360mg/m^2 on Day 1-5) administered every 3 weeks if not previously administered for 6 cycles. • Second-line: administer gemcitabine 750–900 mg/m^2 on Days 1 and 8, and docetaxel 75–100 mg/m^2 on Day 8, every 21 days for 6 cycles or administer gemcitabine (750–900 mg/m^2 on Days 1 and 8 every 21 days) and oral pazopanib 400–800 mg daily until

Clinical domain	GOSK recommendations
	there is disease progression or unacceptable toxicity. Enroll patients with high mitotic indices into clinical trials. • For chemo resistant disease, administer single-agent trabectedin (1.1mg/m^2) every 21 days for 6 cycles • For vulvar melanoma Initiate combination immunotherapy with Nivolumab (1mg/kg every 3 weeks) and Ipilimumab (3mg/kg every 3 weeks) for 4 cycles then maintenance therapy with Nivolumab 240mg every 2 weeks until there is disease progression or unacceptable toxicity. For BRAF V600E mutations, administer targeted agents Dabrafenib (150 mg twice daily) and Trametinib (2 mg once daily) until there is disease progression or unacceptable toxicity if not previously administered. Consider clinical trials for nonresponsive disease.
p16INK4a (p16); tumor protein p53 (p53), p40, p63; cytokeratin 5/6 (CK5/6); SRY-box transcription factor 10 (SOX10); S100 calcium-binding protein (S100); melanoma antigen recognized by T-cells 1 (Melan-A); human melanoma black 45 (HMB-45); cytokeratin 7 (CK7); carcinoembryonic antigen (CEA); marker of proliferation Ki-67 (Ki-67); programmed death-ligand 1 (PD-L1)	

1.0 Introduction

1.1 Background

Vulvar cancer is a relatively rare malignancy that arises from vulvar epithelium and comprises several distinct histologic and etiologic subtypes (1). Despite a lower incidence compared with cervical cancer, vulvar cancer poses significant challenges due to late presentation, limited access to diagnosis and treatment, and disparities in access to care (2). Its development broadly follows two major etiological pathways. The HPV-associated pathway is more prevalent in younger women and in younger populations, and is associated with HPV infection and precursor lesions such as high-grade squamous intraepithelial lesions (HSIL) or usual-type vulvar intraepithelial neoplasia (uVIN) (3). Risk factors associated with HPV-associated vulvar carcinogenesis include smoking, multiple sexual partners, and immunosuppression, including HIV infection. Conversely, the HPV-independent pathway predominates in older women, and is associated with chronic dermatoses such as lichen sclerosus and differentiated VIN (dVIN) (3). While the HPV-associated pathway has been extensively documented, the HPV-independent pathway remains less well characterized, particularly in African populations (3).

Survival outcomes are strongly associated with stage at diagnosis. Five-year survival is substantially higher, with over 80% in localized disease and decreases markedly to to below 25% in regional or distant disease (4). In many African settings, including Kenya, delayed presentation may be influenced by limited awareness, stigma surrounding genital symptoms, reliance on traditional medicine, and financial barriers to care. Unlike cervical cancer, vulvar cancer does not have an established population-based screening program. HPV vaccination may reduced the burden of HPV-associated vulvar disease, although coverage and access remain important considerations in many settings. These factors may contribute to delayed diagnosis and challenges in accessing appropriate treatment (5).

Inguino-femoral lymph-node status is an important prognostic factor in vulvar cancer, with the presence and extent of nodal metastases strongly associated with outcome. Other important prognostic factors include FIGO stage, tumor size, depth of invasion, lymphovascular space invasion (LVSI), and surgical margin status (6). HPV status is also relevant, particularly in distinguishing HPV-associated from HPV-independent disease, with differences in tumor biology and clinical outcomes reported between these groups.

In Kenya, the absence of a standardized national clinical management protocol for vulvar cancer mayu contribute to variation in clinical practice and access to care. Recognizing this gap, the Gynaecologic Oncology Society of Kenya (GOSK) initiated the development of a standardized national protocol for vulvar cancer. By adapting relevant international guidelines to the Kenyan context, the protocol aims to harmonize clinical practice, support appropriate diagnosis and treatment, promote efficient use of available resources, and reduce unwarranted variation in care across the country.

1.2 Epidemiology

Vulvar cancer accounts for approximately 5–8% of gynecologic cancers worldwide and predominantly affects older women. The global average age at diagnosis is approximately 68 years (1,2). Incidence varies considerably by geographic region, with differences in disease burden and age at presentation reported between high-income and low- and middle-income settings. In sub-Saharan Africa, including Kenya, vulvar cancer has been reported at younger ages than in many high-income settings (1,2). According to GLOBOCAN 2022, the age-standardized incidence rate (ASR) for vulvar cancer in Africa ranges from approximately 1.6 to 2.0 cases per 100,000 women, while estimates for Kenya range from 0.6 to 2.1 cases per 100,000 women (2).

1.3 Vulvar cancer in Kenya

In Kenya, vulvar cancer is less common than cervical cancer, but it presents important challenges in diagnosis and management. Patients may present with advanced disease because of limited awareness, stigma surrounding genital symptoms, financial barriers to care, and other factors that may delay access to diagnosis and treatment (5). Unlike cervical cancer, vulvar cancer does not have an organized population-based screening program. These challenges may contribute to delayed diagnosis and difficulties in accessing timely and appropriate treatment.

The absence of a standardized national clinical management protocol has also created a need for consistent, evidence-based guidance for the diagnosis and

management of vulvar cancer across the Kenyan healthcare system.

1.4 Rationale for the GOSK protocol

In Kenya, the absence of a standardized national clinical management protocol for vulvar cancer may contribute to variation in clinical practice and access to care. GOSK therefore initiated the development of a standardized national protocol for the management of vulvar cancer. The protocol adapts relevant international clinical practice guidelines to the Kenyan healthcare and resource context, with the aim of supporting consistent clinical decision-making, standardizing approaches to diagnosis and treatment, and promoting appropriate use of available resources across the healthcare system.

2.0 Risk factors, clinical presentation, Histology and staging

2.1 Risk factors for vulvar cancer

Risk factors for vulvar cancer vary according to the underlying etiologic pathway. Important risk factors include:

HPV-associated disease

- Persistent infection with high-risk HPV types, particularly HPV 16 and HPV 18.
- Vulvar high-grade squamous intraepithelial lesion (HSIL)/usual-type vulvar intraepithelial neoplasia (uVIN).
- Smoking.
- Immunosuppression, including HIV infection.
- Previous HPV-associated anogenital disease, including cervical cancer.

HPV-independent disease

- Differentiated vulvar intraepithelial neoplasia (dVIN).
- Lichen sclerosus and other chronic vulvar dermatoses.
- Increasing age.

Other factors may be relevant to specific histological subtypes, including vulvar melanoma.

2.2 Clinical Features of Vulvar Cancer

Vulvar cancer may present with nonspecific symptoms and may initially be mistaken for benign vulvar conditions. Persistent or unexplained vulvar symptoms or lesions should prompt clinical evaluation. Common clinical features are summarized in Box 1.

Table 1. Clinical features of vulvar cancer

- **Vulvar pain or discomfort:** Symptoms including dysuria (pain during urination) or dyspareunia (pain during intercourse) as the lesion affects surrounding tissues.
- **Chronic pruritus:** Persistent vulvar itching may be an important presenting symptom.
- **Vulvar mass or lesion:** Patients may notice a lump, wart-like growth, or raised area on the vulva that can eventually ulcerate or bleed.
- **Skin changes:** Vulvar skin may exhibit thickening, ulceration, or noticeable discoloration, appearing as red, white, or dark spots.
- **Abnormal vaginal bleeding:** Abnormal bleeding often occurs as a result of tumor-related ulceration or the direct erosion of superficial blood vessels.
- **Vulvar or vaginal discharge:** Patients may experience an unusual vaginal or vulvar discharge that is sometimes foul-smelling or blood tinged.
- **Groin swelling:** Enlarged inguinal-femoral lymph nodes may indicate possible spread of the disease.

2.3 Histological subtypes of vulvar cancer

Histological subtype is an important determinant of prognosis and management in vulvar cancer. The principal histological subtypes and selected less common tumors are summarized in Box 2.

Table 2. Histological subtypes of vulvar cancer

- **Squamous cell carcinoma (SCC)**

Arises from squamous cells lining the vulva

  - Keratinizing SCC: Not typically HPV-related
  - Basaloid/Warty SCC: Often HPV-related

- **Vulvar melanoma**

Arises from melanocytes in vulvar skin

- **Adenocarcinoma**

Arises from glandular cells (e.g., Bartholin's glands, sweat glands)

  - Paget's Disease: Presents as erythematous, eczematous lesions
  - Bartholin Gland adenocarcinoma: Arises from Bartholin's glands

- **Basal cell carcinoma**

Arises from basal cells of the epidermis

- **Sarcomas**

Arises from connective tissue, muscle, or fat

  - Leiomyosarcoma – Smooth muscle origin
  - Rhabdomyosarcoma – Striated muscle origin (more common in younger women)

- **Verrucous carcinoma**
  - A well-differentiated SCC with a wart-like appearance.
- **Neuroendocrine carcinoma**

Arises from neuroendocrine cells (e.g., small cell carcinoma)

- **Metastatic tumors**

Spread from other primary sites

2.4 FIGO staging for vulvar cancer

Vulvar squamous cell carcinoma is staged using the FIGO staging system (2018). Clinical examination, histopathological assessment, and appropriate imaging are used to determine the extent of disease. The FIGO stage should be documented in the clinical record and used to guide treatment planning.

Table 3. FIGO staging for vulvar cancer

FIGO Stage	Description
Stage I	Tumor confined to the vulva or perineum.
IA	Tumor ≤ 2 cm in size, confined to the vulva or perineum, with stromal invasion ≤ 1 mm.
IB	Tumor > 2 cm in size or stromal invasion > 1 mm, confined to the vulva or perineum.
Stage II	Tumor of any size with extension to adjacent perineal structures (lower urethra, lower vagina, anus).
Stage III	Tumor of any size with or without extension to adjacent perineal structures, with lymph node involvement.
IIIA	1–2 lymph node metastases, each < 5 mm in size.
IIIB	1–2 lymph node metastases, at least one ≥ 5 mm in size.
IIIC	≥ 3 lymph node metastases or lymph node(s) with extracapsular spread.
Stage IV	Tumor invades other regional structures, or there are distant metastases.
IVA	Tumor invades the upper urethra, upper vagina, bladder, rectum, pelvic bone, or fixed/ulcerated lymph nodes.
IVB	Distant metastasis (including pelvic lymph nodes)

2.5 Staging of vulvar melanoma

Vulvar melanoma is staged separately from vulvar squamous cell carcinoma. Staging should follow the applicable American Joint Committee on Cancer (AJCC) melanoma staging system. Histopathological assessment should include Breslow thickness and other relevant pathological features required for staging and treatment planning.

Table 4. Staging for melanoma of the vulva

Breslow Depth	AJCC T Category	Prognostic risk
In situ	Tis	Non-invasive
< 0.8 mm	T1a (if no ulceration)	Very low risk (~95–99% 5-yr survival)
0.8–1.0 mm	T1b (if ulcerated)	Low risk (~90% survival)
1.01–2.0 mm	T2a (no ulceration) / T2b (ulcerated)	Moderate risk (~80–85% survival)
2.01–4.0 mm	T3a/T3b	High risk (~60–75% survival)
> 4.0 mm	T4a/T4b	Very high risk (~50% survival)

3.0 Objectives

3.1 Overall objectives

To establish a standardized, evidence-based approach to the management of vulvar cancer in Kenya.

3.2 Specific objectives

This protocol provides recommendations and guidance on:

1. Diagnostic evaluation of patients with suspected or confirmed vulvar cancer.
2. Management according to disease stage.
3. Management according to surgical operability and resectability.
4. Management of specific histological subtypes and relevant tumor characteristics.
5. Post-treatment surveillance and survivorship care.
6. Supportive and palliative care.
7. Management of recurrent and advanced disease.
8. Patient counseling and shared decision-making.

4.0 Clinician responsibility

This protocol represents the evidence-based recommendations developed by the multidisciplinary GOSK protocol development group for the management of patients with vulvar cancer in Kenya.

The protocol is intended to guide healthcare professionals involved in the diagnosis, treatment, follow-up, supportive care, and palliation of patients with vulvar cancer. These

include gynecologic oncologists, radiation and medical oncologists, pathologists, radiologists, gynecologists, primary care physicians, gynecologic oncology nurses, oncology pharmacists, public health specialists, palliative care providers, and other relevant healthcare professionals and allied health teams.

The recommendations should be applied in conjunction with appropriate clinical judgment and consideration of each patient's clinical condition, preferences, comorbidities, treatment goals, available resources, and local service capacity. The protocol is intended to support clinical decision-making and does not replace individualized assessment or multidisciplinary discussion where appropriate.

5.0 Methods

5. 1 Guideline adaptation approach

This protocol was developed using a guideline adaptation approach. Relevant clinical practice guidelines for vulvar cancer were identified and evaluated for methodological quality and relevance before selected recommendations were adapted to the Kenyan healthcare and resource context. The adaptation process involved identification of potential source guidelines, assessment of their methodological quality, selection of appropriate guidelines for use as source documents, and subsequent review and contextualization of their recommendations for clinical practice in Kenya.

5.2 Development panel

A multidisciplinary panel was convened to contribute to the development and contextualization of the vulvar cancer management recommendations. The panel included gynecologic oncologists, pathologists, radiologists, gynecologic oncology nurses, oncology pharmacists, radiation oncologists, public health specialists, and patient representatives. Panel members received technical training from experts at the University of Nairobi and Kenyatta National Hospital in evidence-based guideline adaptation. The training covered the use of standardized appraisal instruments, systematic assessment of existing clinical guidelines, and approaches to adapting recommendations to local healthcare circumstances.

5.3 Search strategy

A literature search was conducted in PubMed and Google Scholar to identify clinical practice guidelines and other relevant evidence addressing the management of vulvar cancer. The search included combinations of terms relating to the disease and clinical guidance, including "vulvar cancer," "cancer of the vulva," "clinical guideline," "gynecologic oncology," "protocols," and "guidelines." The search was intended to identify guidance relevant to diagnosis, staging, treatment, surveillance, recurrent disease, and supportive care. Five potentially relevant guidance documents were identified and considered for further assessment. The retrieved documents are summarized in Table 5.

Table 5. Summary of retrieved guidelines

	Title	Type	Publisher	Year of last Update
1	British Gynaecological Cancer Society (BGCS) vulval cancer guidelines: An update on recommendations for practice 2023	Clinical guideline	British Gynaecological Cancer Society (BGCS)	2023
2	National Comprehensive Cancer Network (NCCN) Clinical Practice Guidelines in Oncology for Vulvar Cancer	Clinical guideline	National Cancer Comprehensive Network (NCCN)	2025
3	ESGO Guidelines for the management of patients with Vulvar cancer - Update 2023	Clinical guideline	European Society of Gynaecologic Oncology (ESGO)	2023
4	Guidelines for the Diagnosis and Management of Vulval Carcinoma	Update review	Royal College of Obstetricians and gynaecology	2014
5	Moi Teaching and Referral Hospital, Eldoret, Kenya. Directorate Of Reproductive Health Protocols	Benefit definition guideline	MTRH	2024

5.5 Eligibility and selection of guidelines

Retrieved guidance documents were assessed for their relevance to vulvar cancer management and their suitability for use in developing the GOSK protocol. Consideration was given to the scope of the document, the extent to which it provided clinically applicable recommendations, its methodological quality, and its relevance to the Kenyan healthcare context. Documents that did not provide sufficiently developed clinical management recommendations for adaptation were not taken forward as source guidelines.

5.6 AGREE II Appraisal

The identified guidelines were independently appraised by two trained panelists using the Appraisal of Guidelines for Research and Evaluation II (AGREE II) instrument.

AGREE II assesses guideline quality across six domains:

1. Scope and purpose
2. Stakeholder involvement
3. Rigor of development
4. Clarity of presentation
5. Applicability
6. Editorial independence

Each item was rated using the AGREE II 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). Domain scores were subsequently standardized and expressed as percentages using the AGREE II scoring formula:

Standardized domain score (%) = (obtained score − minimum possible score) ÷ (maximum possible score − minimum possible score) × 100

The appraisal results are presented in Section 6.

5.7 Guideline Selection

Following appraisal, the identified guidelines were considered for their methodological quality, relevance to vulvar cancer management, and suitability for adaptation to the Kenyan setting.

Three guidelines were selected as the principal source documents for the GOSK vulvar cancer protocol:

1. British Gynaecological Cancer Society (BGCS) Vulval Cancer Guidelines
2. National Comprehensive Cancer Network (NCCN) Clinical Practice Guidelines in Oncology: Vulvar Cancer
3. European Society of Gynaecological Oncology (ESGO) Guidelines for the Management of Vulvar Cancer

The RCOG and MTRH documents were not included among the final source guidelines.

The selected guidelines subsequently formed the basis for the comparative evidence review and contextualization of the GOSK recommendations.

5.8 Adaptation and Contextualization

Recommendations from the three selected source guidelines were reviewed across the principal clinical domains of vulvar cancer management. Areas of agreement and variation between the guidelines were identified during the evidence review.

The recommendations were then considered in relation to the Kenyan healthcare setting, including the availability of diagnostic services, pathology, surgery, radiotherapy, systemic treatment, and supportive and palliative care.

Where recommendations differed between source guidelines, the available supporting evidence, clinical relevance, and feasibility within the Kenyan context were considered in formulating the corresponding GOSK recommendations.

5.9 Development of GOSK Recommendations

The final recommendations were developed by synthesizing the relevant recommendations from the selected source guidelines and contextualizing them for vulvar cancer care in Kenya. The recommendations were organized according to the clinical pathway, covering diagnostic assessment, histopathological evaluation, staging, primary treatment, adjuvant treatment, management of recurrent and advanced disease, surveillance, and supportive and palliative care. The resulting recommendations are presented in Section 7.

6.0 Review of evidence

This section summarizes the evidence and recommendations identified from the three selected source guidelines: the British Gynaecological Cancer Society (BGCS) Vulval Cancer Guidelines, the National Comprehensive Cancer Network (NCCN) Clinical Practice Guidelines in Oncology: Vulvar Cancer, and the European Society of Gynaecological Oncology (ESGO) Guidelines for the Management of Vulvar Cancer. The evidence was reviewed across key domains of vulvar cancer management and considered in the development of the GOSK recommendations.

6.1 AGREE II appraisal results

Guidelines scoring below 75% in Domain 3 or below 60% in Domain 4 were excluded from further consideration. In addition, the RCOG guideline was excluded because of the age of the guideline and availability of more recent source guidelines.

Table 6. Summary of AGREE II domain score

Title	Domain 1	Domain 2	Domain 3	Domain 4	Domain 5	Domain 6	Overall decision
BGCS, 2023	77.7%	83%	81%	83%	79.1%	70.8%	Included
NCCN, 2024	77.7%	83%	81%	83%	79.1%	70.8%	Included
ESGO, 2023	91.6%	86%	81%	83%	79.1%	70.8%	Included
RCOG, 2014	72%	72%	80.9%	83%	58%	8%	*Excluded

6.2 Diagnostic considerations

Table 7. Comparative evidence from source guidelines for diagnostic evaluation of vulvar cancer

Diagnostic aspect	BGCS (2023)	NCCN (2025)	ESGO (2023)
Initial evaluation	A full vulvar examination and a thorough perianal inspection must be performed.	A complete pelvic and vulvar exam should be conducted, including a history of HPV and immunosuppression.	A detailed vulvar examination is required to assess for risks such as lichen sclerosus and HPV.
Biopsy	A punch or wedge biopsy is preferred; excisional biopsies should be avoided during the initial evaluation.	Excisional biopsy may be considered for tumors under 2 cm in low-resource settings, while larger tumors require incisional biopsy.	An incisional biopsy is the required method for establishing a definitive diagnosis.
HPV/p16 Testing	Testing for HPV or p16 is recommended specifically for cases with squamous histology.	This testing is strongly advised as it provides critical information for prognostic stratification.	Testing is recommended to assist with molecular subtyping of the malignancy.
Local imaging	Pelvic MRI is indicated for T1b tumors or higher to assess local disease extent.	MRI is utilized specifically to evaluate for urethral, vaginal, or anal sphincter involvement.	MRI is indicated for tumors ≥2 cm or whenever deep invasion is clinically suspected.
Nodal staging	SLNB is used for T1b-T2 tumors (<4 cm); otherwise, a full LND yielding 10–13 nodes per groin is required.	SLNB is preferred for unifocal tumors <4 cm, but full groin dissection is required if nodes are palpable or SLNB is positive.	SLNB is indicated for T1b-T2 tumors, while full LND is required if macro-metastases are identified.
Advanced imaging	CT of the chest, abdomen, and pelvis or PET-CT is recommended if metastasis is suspected.	PET-CT is the preferred modality if the disease is Stage IB or higher or if nodes are clinically suspicious.	PET-CT is recommended for tumors staged at T2 or higher and for cases with high-risk features.
Multidisciplinary review	A multidisciplinary team review is mandatory for the management of all cases.	Review by a multidisciplinary team is recommended, particularly for advanced or recurrent disease.	A multidisciplinary review is required for the formulation of any treatment plan.
SLNB-Sentinel Lymph Node Biopsy			

6.3 Management of vulvar squamous cell, basal cell and adenocarcinoma

6.3.1 Stage 1A disease

Table 8. Comparative evidence from source guidelines for management of stage 1A vulvar cancer

	Surgical management	Chemotherapy	Radiotherapy	Post-treatment surveillance
NCCN	Treatment consists of a simple partial vulvectomy or a wide local excision.	A wide local excision with a target clinical margin of at least 1 cm is the standard approach.	Radical local excision is the preferred method, and vulvar conservation is strongly encouraged.	Treatment consists of a simple partial vulvectomy or a wide local excision.
ESGO	Groin node dissection is not required, as the risk of metastasis in Stage IA disease is negligible.	Lymph node evaluation is not recommended for lesions with a depth of invasion of 1 mm or less.	Inguinofemoral lymph node dissection is not indicated for Stage IA disease.	Groin node dissection is not required, as the risk of metastasis in Stage IA disease is negligible.
BGCS	Adjuvant treatment is not recommended if the primary tumor is completely excised with negative margins.	Adjuvant therapy is not required for Stage IA disease following successful surgical resection.	No adjuvant therapy is indicated once negative surgical margins are confirmed.	Adjuvant treatment is not recommended if the primary tumor is completely excised with negative margins.

6.3.2 Stage IB disease

Table 9. Comparative evidence from source guidelines for management of stage 1B vulvar cancer

Guideline	Surgical management	Chemotherapy	Radiotherapy	Post-treatment surveillance
NCCN	Treatment involves radical partial vulvectomy with ipsilateral SLNB for lateral tumors or bilateral SLNB for midline tumors. Re-excision is required if margins are closer than 1 cm. Reconstructive surgery input is not specifically addressed.	Systemic chemotherapy is not indicated as a standalone treatment for Stage IB disease.	Radiation is recommended if two or more nodes are positive, the disease is unresectable, or surgical margins remain close.	Physical examinations are required every 3–6 months for the first 2 years, then every 6–12 months. Baseline abdominopelvic CT imaging should be considered and repeated as clinically indicated.
ESGO	Treatment involves radical local excision with a minimum margin of 8 mm and SLNB. Collaborative input from reconstructive surgery is specifically recommended for surgical planning.	Systemic chemotherapy is not indicated as a standalone treatment for Stage IB disease.	Radiation is recommended if two or more nodes are positive, the disease is unresectable, or surgical margins remain close.	Physical examinations are required every 3 months for the first 2 years, then every 6 months. Baseline imaging is advised, followed by annual abdominopelvic CT scans for the first 3 years.
BGCS	Treatment consists of wide excision with an 8 mm margin and SLNB. Collaborative input from reconstructive surgery is specifically	Systemic chemotherapy is not indicated as a standalone treatment for Stage IB disease.	Radiation is recommended if two or more nodes are positive, the disease is unresectable, or surgical margins remain close.	Physical examinations are required every 3 months for the first 2 years, then every 6 months. Abdominopelvic CT scans are considered only if nodal risk factors are present, followed by baseline and as-needed imaging

Guideline	Surgical management	Chemotherapy	Radiotherapy	Post-treatment surveillance
	recommended for surgical planning.			
SLNB: sentinel lymph node biopsy				

6.3.3 Stage II disease

Table 10: Comparative evidence from source guidelines for management of stage II vulvar cancer

Guideline	Surgical management	Chemotherapy	Radiotherapy	Post-treatment surveillance
NCCN (2025)	Radical vulvectomy and inguinofemoral lymph node (IFLN) evaluation, either via SLNB or lymphadenectomy, should be performed. Bilateral evaluation is required for midline tumors, and a reconstructive surgeon should be involved.	Adjuvant treatment may include platinum-based chemotherapy: Cisplatin (50 mg/m²) or Carboplatin (AUC 2) for 6 cycles with administered concurrently with radiotherapy for positive nodes or close histology margins. CCRT can be considered for neoadjuvant therapy.	Radiotherapy (RT) with or without platinum-based chemotherapy is indicated for patients with two or more positive nodes or close surgical margins.	Clinical evaluations are conducted every 3–6 months for the first 2 years and every 6–12 months for the following 3 years. Baseline CT imaging is considered and repeated as needed.
ESGO (2023)	Radical vulvectomy should be performed, followed by inguinofemoral dissection if the sentinel lymph node (SLN) is positive. Collaborative planning with a reconstructive surgeon is required.	Concurrent chemoradiotherapy (CCRT) using a platinum-based regimen is the standard for unresectable disease or high-risk nodal findings.	Definitive chemoradiation is indicated for unresectable disease, two or more positive nodes, or the presence of lymphovascular space invasion (LVSI).	Physical exams are performed every 3 months for 2 years and every 6 months for the next 3 years. Baseline CT imaging is recommended, followed by annual CT scans for 3 years.
BGCS (2023)	Radical local excision or partial vulvectomy is standard. Nodal staging is conducted via SLNB or full lymphadenectomy for high-risk patients.	Platinum-based chemotherapy is primarily utilized as a radiosensitizer alongside adjuvant or primary radiotherapy.	Adjuvant radiotherapy is recommended for close or positive margins, two or more positive nodes, or significant lymphovascular space invasion (LVSI).	Surveillance visits occur every 3 months for 2 years and every 6 months for the following 3 years. CT imaging is utilized at baseline and as needed for patients with nodal risk factors
1. IFLN- Inguinal femoral Lymph nodes *2. RT - Radiotherapy* *Space Invasion*				*3. CCRT- Concurrent Chemo-Radiotherapy* *4. LVSI- Lympho-vascular*

6.3.4 Stage III disease

Table 11. Comparative evidence from source guidelines for management of stage III vulvar cancer

Guideline	Surgical management	Chemotherapy	Radiotherapy	Post-treatment surveillance
NCCN	Treatment consists of radical vulvectomy and inguinofemoral lymph node evaluation via sentinel node biopsy or full lymphadenectomy. Bilateral staging is required for midline tumors, and the involvement of a reconstructive surgeon is advised.	Adjuvant treatment may include platinum-based chemotherapy: Cisplatin (50 mg/m²) or Carboplatin (AUC 2) for 6 cycles with administered concurrently with radiotherapy for positive nodes or close histology margins.	Radiotherapy, with or without concurrent platinum-based chemotherapy, is indicated for patients with two or more positive nodes or close surgical margins.	Physical examinations are required every 3–6 months for the first 2 years, then every 6–12 months for the following 3 years. Baseline CT imaging should be considered and repeated as clinically indicated.
ESGO Stage 3A	Management involves a complete primary resection of the tumor combined with a thorough nodal dissection.	Patients receive six cycles of platinum-based chemotherapy; immunotherapy may be considered if PD-L1 expression is positive.	Adjuvant radiotherapy is indicated if two or more nodes are positive or if extranodal extension is identified.	Clinical exams are required every 3 months for 3 years, then every 6 months for 2 years. CT imaging is performed every 6–12 months for 3 years.
3B	Treatment consists of a complete primary resection of the tumor along with a formal nodal dissection.	Six cycles of platinum-based chemoradiotherapy are administered, with immunotherapy as an option for PD-L1 positive cases. Concurrent chemoradiotherapy is utilized as the standard adjuvant treatment approach.	Concurrent chemoradiotherapy is utilized as the standard adjuvant treatment approach.	Clinical exams are required every 3 months for 3 years, then every 6 months for 2 years. CT imaging is performed every 6–12 months for 3 years
3C	Surgical intervention is limited to debulking procedures intended for symptomatic relief.	Palliative chemoradiotherapy is provided, which may be supplemented by immunotherapy based on the patient's status.	Palliative chemoradiotherapy is the primary modality used to control local disease and manage symptoms.	Clinical exams are required every 3 months for 3 years, then every 6 months for 2 years. CT scans are performed every 6–12 months for 3 years.
BGCS	Treatment consists of radical local excision or partial vulvectomy, combined with sentinel node biopsy or full lymphadenectomy for high-risk patients.	Platinum-based chemotherapy is utilized primarily as a radiosensitizer to enhance the efficacy of adjuvant or definitive radiotherapy.	Adjuvant radiotherapy is recommended for patients with close or positive margins, two or more positive nodes, or evidence of lymphovascular space invasion (LVSI).	Surveillance visits occur every 3 months for the first 2 years and every 6 months for the next 3 years. CT scans are performed at baseline and as needed only if nodal risk factors are present.

6.3.5 Stage IVA disease

Table 12. Comparative evidence from source guidelines for management of stage IVA vulvar cancer

Guideline	Surgical management	Chemotherapy	Radiotherapy	Post-treatment surveillance
NCCN	Surgery is primarily used to excise residual disease following chemoradiation or as palliative care to manage symptoms. Pelvic exenteration is considered only if primary chemoradiotherapy fails.	Concurrent chemoradiation is the primary approach, utilizing Cisplatin 50mg/m^2 and/or 5-Fluorouracil 1000mg/m^2 for up to six cycles for primary, adjuvant or neoadjuvant therapy.	Definitive chemoradiation is the standard of care for locally advanced disease to avoid the morbidity of ultra-radical surgery.	Surveillance is individualized, typically occurring every 1 to 3 months. Imaging via CT, MRI, or PET-CT is recommended every 2 to 4 cycles during active therapy.
ESGO	Resection of residual disease is performed after chemoradiation; pelvic exenteration is reserved for highly selected cases. Neoadjuvant chemoradiation is used to improve resectability.	Platinum-based chemotherapy, specifically Cisplatin at 50 mg/m^{2}is administered for 3 to 6 cycles alongside radiation.	Neoadjuvant chemoradiation is prioritized to downstage the tumor and enable less radical surgical margins.	Patients are monitored every 2 to 3 months following treatment. CT imaging is required every 8 to 12 weeks throughout the treatment course to assess response.
BGCS	Surgery has a limited role, though debulking of symptomatic nodes or exenteration may be considered after a multidisciplinary review. Fixed or ulcerated nodes are evaluated via ultrasound-guided biopsy.	Primary chemoradiotherapy using Cisplatin for 3 to 6 cycles is recommended. Neoadjuvant chemotherapy may also be considered to downstage tumors before surgery.	Definitive chemoradiotherapy is the primary treatment for unresectable disease or fixed nodes. Adjuvant radiotherapy is added post-surgery for close margins or nodal disease.	Surveillance occurs every 1 to 3 months depending on the specific treatment intensity. CT scans are recommended every 2 to 3 months to monitor for recurrence.

6.3.6 Stage IVB / metastatic disease

Table 13. Comparative evidence from source guidelines for management of stage IVB vulvar cancer

	Surgical management	Chemotherapy	Radiotherapy	Post-treatment surveillance
NCCN	Surgery is utilized solely for palliative purposes to manage local symptoms such as bleeding or pain.	First-line treatment consists of six cycles of platinum-based chemotherapy, such as Cisplatin 50-70 mg/m^2 and Paclitaxel 175 mg/m^2. Pembrolizumab 200mg IV every 3 weeks is recommended for	Radiotherapy is used palliatively to provide symptom control for localized disease or painful metastases.	Surveillance is individualized and typically occurs every 1 to 3 months. Imaging via CT, MRI, or PET is recommended every 2 to 4 cycles during active therapy.

	Surgical management	Chemotherapy	Radiotherapy	Post-treatment surveillance
		PD-L1 positive cases.		
ESGO	Palliative surgery is performed only to address specific complications such as bowel/urinary obstruction or refractory bleeding.	First-line treatment consists of six cycles of platinum-based chemotherapy, such as Cisplatin 50 mg/m^2 and Paclitaxel 175 mg/m^2. Pembrolizumab 200mg IV is recommended for PD-L1 positive cases.	Palliative radiotherapy is administered to manage local symptoms and improve the patient's quality of life.	Clinical evaluations occur every 2 to 3 months. Response to treatment is monitored via CT imaging every 8 to 12 weeks.
BGCS	Palliative resection or debulking is used for local symptom control; metastasectomy has a very limited role. Inguinofemoral lymphadenectomy is reserved for symptomatic nodal disease.	Palliative chemotherapy using Carboplatin AUC 2 and a taxane commonly paclitaxel 135-175mg/m^2 is standard. Pembrolizumab 200mg IV is used for PD-L1 positive tumors or high tumor mutational burden; clinical trials are encouraged.	Palliative radiotherapy is utilized for symptomatic metastases in the bone or brain, or to maintain local control of the primary tumor.	Surveillance is scheduled every 1 to 3 months based on the treatment plan. Follow-up CT imaging is typically performed every 2 to 3 months.

6.3.7 Recurrent vulvar squamous, basal and adenocarcinoma

Table 14. Comparative evidence from source guidelines for management of recurrent vulvar cancer

Recurrence Type	NCCN (2025)	ESGO (2023)	BGCS (2023)
Local recurrence (Resectable)	Wide local excision is the primary treatment. Adjuvant radiotherapy is administered if it was not previously given.	Wide local excision is the standard approach. Re-irradiation may be considered if it is clinically feasible.	Wide local excision is recommended. Chemoradiation should be considered if the recurrence is unresectable.
Nodal recurrence	Management involves lymphadenectomy, which may be followed by chemoradiation depending on previous treatment history.	Systemic therapy is generally indicated if the disease has disseminated; surgery is reserved for selected isolated cases.	Radical lymphadenectomy is indicated specifically if the nodal recurrence is isolated and surgically resectable.
Distant etastasis	Systemic chemotherapy, typically a combination of Cisplatin and Paclitaxel, is the standard first-line regimen.	Immunotherapy with Pembrolizumab is recommended for patients with confirmed PD-L1 positive tumors.	Anti-PD-1 therapy is the preferred systemic approach; otherwise, palliative chemotherapy or radiotherapy is utilized.

6.4 Management of vulvar melanoma

6.4.1 Stage 1A/B

Table 15. Comparative evidence from source guidelines for management of stage 1A / 1B vulvar melanoma

Guideline	Surgical management	Chemotherapy and immunotherapy	Radiotherapy	Post-treatment surveillance
NCCN	Treatment involves wide local excision with 1–2 cm margins if feasible. Sentinel lymph node (SLN) biopsy is considered for tumors with a depth greater than 0.8 mm or high-risk features.	Systemic chemotherapy or immunotherapy is generally not recommended as a standard adjuvant treatment for early-stage disease.	Adjuvant radiotherapy is rarely considered; it may be utilized for close margins (less than 8 mm) if surgical re-excision is not feasible.	Clinical examinations are required every 6–12 months for years 1–3, then annually for years 4–5. Imaging is performed only if the patient is symptomatic.
ESGO	Wide local excision with margins of at least 1 cm is the standard. The use of sentinel lymph node biopsy (SLNB) is considered but remains a controversial topic in this setting.	Adjuvant immunotherapy, such as Pembrolizumab (200 mg IV every 3 weeks) or Nivolumab (240 mg IV every 2 weeks), is considered for patients with high-risk features.	Adjuvant radiotherapy is rarely utilized but may be considered for close margins (less than 8 mm) if re-excision is not possible.	Clinical exams are scheduled every 6–12 months for years 1–3, then annually. Ultrasound surveillance is specifically recommended every 6 months during the first 3 years.
BGCS	Treatment consists of wide local excision with 1 cm margins. Sentinel lymph node biopsy (SLNB) is considered only in select cases.	Systemic therapy is not routinely recommended in the adjuvant setting.	Adjuvant radiotherapy is indicated only if surgical margins are positive. Primary radiotherapy is reserved for unresectable tumors.	Follow-up visits occur every 6–12 months for years 1–3, and annually for years 4–5. Routine imaging is not recommended.

6.4.2 Stage 2

Table 16. Comparative evidence from source guidelines for management of stage 2 vulvar melanoma

Guideline	Surgical management	Chemotherapy and immunotherapy	Radiotherapy	Post-treatment surveillance
NCCN	Treatment consists of wide excision with margins of 1–2 cm. Sentinel Lymph Node Biopsy (SLNB) is strongly recommended if it was not performed during the initial diagnosis.	Pembrolizumab (200mg every 3 weeks) or Nivolumab (240mg every 2 weeks or 480mg every 4 weeks for 12 months) for high-risk patients until disease progression or unacceptable toxicity occurs.	Adjuvant radiotherapy is rarely considered but may be used for close margins (<8 mm) if re-excision is not feasible, or for tumors with invasion depth greater than 4 mm.	Clinical assessment is required every 3–6 months for the first 2 years, then every 6–12 months for years 3–5. Imaging is performed only as clinically necessary.
BGCS	Wide excision with 1–2 cm margins is the standard approach. SLNB is recommende	Adjuvant anti-PD-1 therapy, such as Pembrolizumab (200 mg IV every 3 weeks for 35 cycles), should be considered for high-	Adjuvant radiotherapy is indicated only if surgical margins remain positive. Primary radiotherapy is	Surveillance visits are scheduled every 3–6 months for the first 2 years, then every 6–12 months for years 3–5. Routine imaging is not recommended.

Guideline	Surgical management	Chemotherapy and immunotherapy	Radiotherapy	Post-treatment surveillance
	d as it provides critical prognostic information.	risk cases (e.g., ulceration or high mitotic rate).	reserved for unresectable tumors.	
ESGO	Treatment involves wide local excision with margins of at least 1 cm. The use of SLNB is considered, though its therapeutic value remains a subject of debate.	Adjuvant immunotherapy is considered for high-risk features, utilizing regimens such as Pembrolizumab (200 mg for 35 cycles) or Nivolumab (240 mg every 2 weeks or 480 mg every 4 weeks).	Adjuvant radiotherapy is rarely utilized but may be considered for close margins (<8 mm) if surgical re-excision is not feasible.	Clinical exams occur every 3–6 months for the first 2 years, then every 6–12 months for years 3–5. Ultrasound surveillance is recommended every 6 months for the first 3 years.

6.4.3 Stage 3

Table 17. Comparative evidence from source guidelines for management of stage 3 vulvar melanoma

Guideline	Surgery	Chemotherapy / Immunotherapy / Targeted Therapy	Radiotherapy	Post-Treatment Surveillance
NCCN	Treatment requires wide local excision and a complete lymphadenectomy.	Patients receive adjuvant immunotherapy, which consists of either anti-PD-1 monotherapy or a combination of Nivolumab and Ipilimumab.	Adjuvant radiotherapy is administered if the patient has bulky nodes or close surgical margins.	Clinical follow-ups occur every three months for two years and then every six months. Doctors consider CT scans annually and a brain MRI if neurological symptoms appear.
BGCS	The procedure involves a radical excision, which may include a partial vulvectomy, and an inguinofemoral lymphadenectomy for macroscopic disease.	Treatment includes adjuvant Nivolumab (1mg/kg every 3 weeks) and Ipilimumab (3mg/kg every 3 weeks) for 4 cycles, then maintenance therapy with Nivolumab 240mg every 2 weeks until disease progression or unacceptable toxicity.For BRAF V600E mutations, administer the targeted agents Dabrafenib (150 mg twice daily) and Trametinib (2 mg once daily) until disease progression or unacceptable toxicity	Adjuvant radiotherapy is indicated for patients with bulky nodes or close surgical margins.	Surveillance visits are scheduled every three months for two years and every six months thereafter. CT imaging is conducted every six months for the first two years.
EGSO	Treatment requires a radical excision and an	Adjuvant therapy consists of Nivolumab and Ipilimumab, anti-PD-1	Adjuvant radiotherapy is used for high-risk nodal disease, such	Patients attend follow-ups every three months for two years and every six months thereafter. CT scans are done every six months for three

Guideline	Surgery	Chemotherapy / Immunotherapy / Targeted Therapy	Radiotherapy	Post-Treatment Surveillance
	inguinofemoral lymphadenectomy if there is evidence of nodal involvement.	monotherapy, or BRAF/MEK inhibitors for patients with the BRAF V600E mutation.	as extracapsular spread or multiple positive nodes.	years, alongside an annual brain MRI

6.4.4 Stage 4

Table 18. Comparative evidence from source guidelines for management of stage 4 vulvar melanoma

Guideline	Surgical Intervention	Systemic Therapy (Immunotherapy & Targeted Therapy)	Radiotherapeutic Management	Post-Treatment Surveillance Protocols
NCCN	Palliative surgical procedures are indicated primarily for the management of clinical symptoms.	First-line intervention utilizes Anti-PD-1 immunotherapy, specifically Nivolumab (240mg bi-weekly or 480mg quad-weekly) in combination with Ipilimumab (1mg/kg for four doses). Patients harboring BRAF mutations receive Dabrafenib and Trametinib with titrated dose reductions; participation in clinical trials is strongly encouraged.	Palliative radiotherapy is employed for the stabilization of metastatic lesions, particularly those involving the bone or central nervous system.	Clinical assessment is conducted quarterly for the initial two years, transitioning to biannual reviews for years three through five. Contrast-enhanced CT imaging is considered every 6–12 months, with brain MRI reserved for patients presenting with neurological deficits.
BGCS	Surgical management is restricted to palliative measures, such as hemorrhage control and general symptom mitigation.	Nivolumab (1mg/kg every 3 weeks) and Ipilimumab (3mg/kg every 3 weeks) for 4 cycles, then maintenance therapy with Nivolumab 240mg every 2 weeks until disease progression or unacceptable toxicity. For BRAF V600E mutations, administer the targeted agents Dabrafenib (150 mg twice daily) and Trametinib (2 mg once daily) until disease progression or unacceptable toxicity.	Radiation therapy is utilized within a palliative framework to alleviate disease-related complications.	Surveillance follows a quarterly schedule for the first 24 months, shifting to a biannual frequency for years three through five. Diagnostic CT imaging is mandated at six-month intervals during the first two years of follow-up.
ESGO	Palliative resection is performed to achieve symptomatic relief and improve patient	First-line regimens consist of Anti-PD-1 agents (Pembrolizumab or Nivolumab) administered with or without CTLA-4 inhibition (Ipilimumab). Targeted Dabrafenib and Trametinib therapy is indicated for patients positive for the BRAF gene mutation.	Palliative radiotherapy is indicated for local disease control, specifically to manage refractory pain or tumor-associated bleeding.	Follow-up consultations are required every three months for two years, then every six months through year five. The imaging protocol includes CT scans every six months for the first three years and a mandatory annual brain MRI

Guideline	Surgical Intervention	Systemic Therapy (Immunotherapy & Targeted Therapy)	Radiotherapeutic Management	Post-Treatment Surveillance Protocols
	quality of life.			

6.4 Management of vulvar sarcoma

Table 19. Comparative evidence from source guidelines for management of vulvar sarcoma

Treatment Aspect	ESGO (2021)	BGCS (2022)	NCCN (2025)
Surgery (primary tumor)	Management involves wide local excision achieving margins of at least 1 cm for localized malignancies.	Protocol dictates radical local excision with ≥1 cm margins; partial vulvectomy is indicated for extensive lesions.	Management necessitates complete excision with clear margins, incorporating reconstructive techniques where clinically indicated.
Lymph node management	Sentinel lymph node biopsy (SLNB) is not routinely performed; lymphadenectomy is reserved for cases with clinical suspicion of nodal involvement.	Routine nodal dissection is omitted unless high-grade histology suggests a significant risk of lymphatic spread.	An individualized surgical approach is adopted, with dissection considered for high-grade or advanced clinical stages.
Adjuvant radiotherapy	Radiotherapy is considered for high-grade malignancies, large tumors (>5 cm), or cases with close or positive surgical margins.	Adjuvant radiation is recommended for unresectable disease or cases where surgical margins remain positive.	Radiotherapeutic intervention is advised for patients exhibiting high-risk features, including elevated mitotic indices or lymphovascular space invasion (LVSI).
Adjuvant chemotherapy	The role of chemotherapy remains controversial; doxorubicin-based regimens may be considered for high-grade or advanced disease.	Utilization is limited and primarily reserved for metastatic or unresectable clinical presentations.	Adjuvant chemotherapy (e.g., gemcitabine/docetaxel) is considered for leiomyosarcomas or other high-risk histological subtypes.
Metastatic disease / recurrence	Clinical trial enrollment is preferred; systemic options include doxorubicin, ifosfamide, or pazopanib until disease progression or toxicity.	Management utilizes palliative radiotherapy and chemotherapy, specifically doxorubicin or trabectedin.	Pazopanib is the preferred agent for soft-tissue sarcomas; participation in clinical trials is highly encouraged.
Post-treatment surveillance	Surveillance involves clinical examinations every 3–6 months for five years, with diagnostic imaging indicated only for symptomatic patients.	Protocol mandates annual clinical examinations, with imaging reserved for patients exhibiting high-risk features.	Follow-up consists of a comprehensive history and physical examination every 3–6 months, supplemented by imaging as clinically indicated.

6.5 Special considerations

Verrucous vulvar cancer is a rare subtype of squamous cell carcinoma characterized by slow-growing, warty, cauliflower-like lesions on the vulva. It exhibits local invasiveness but its potential for metastasis is low (7). Surgical excision, either wide local excision or vulvectomy, remains the primary treatment because the tumor is resistant to and can induce anaplastic transformation into a highly aggressive, high-grade squamous cell carcinoma. Incomplete excision increases the risk of recurrence (8).

6.5.1 Fertility considerations in the management of vulvar cancer

Table 20. Comparative evidence from source guidelines on fertility considerations in the management of vulvar cancer

Consideration	NCCN	ESGO	BGCS
Surgical margin strategy	Recommends radical partial vulvectomy or wide local excision with ≥1 cm margins to maximize local control.	Minimizes surgical radicality using anatomy-sparing margins and plastic reconstruction to preserve pelvic anatomy.	Prioritizes retaining pelvic, sexual, and reproductive function while clearing the tumor, VIN, and lichen sclerosus.
Inguinofemoral lymph nodes	Recommends sentinel lymph node (SLN) biopsy for unifocal tumors with ≥1 mm invasion to avoid groin dissection morbidity.	Recommends SLN biopsy for unifocal lesions <4 cm without suspicious nodes. Favors saphenous vein preservation.	Recommends SLN biopsy for early-stage unifocal tumors (<4 cm) to minimize surgical complications.
Ovarian preservation and cryopreservation	Recommends standard embryo and oocyte cryopreservation as first-line therapy, endorsing ovarian tissue cryopreservation as a fully established alternative for immediate oncologic timelines.	Requires pre-treatment counseling for embryo or oocyte freezing, explicitly prioritizing ovarian tissue cryopreservation if standard ovarian stimulation causes unsafe delays.	Mandates immediate referral for standard embryo or oocyte freezing, utilizing ovarian tissue cryopreservation when urgent treatment timelines rule out hormonal stimulation.
Uterine management and medical cytoprotection	Utilizes adjunct GnRH agonists to mitigate chemotherapy damage, confirming pelvic radiation contraindicates pregnancy and mandates proactive counseling on gestational carriers.	Employs adjunct GnRH agonists during systemic chemotherapy as non-standalone protection, advising early surrogacy planning due to irreversible radiation-induced uterine injury.	Approves adjunct GnRH agonists during chemotherapy to protect follicles, while warning that pelvic radiation causes permanent uterine damage, necessitating surrogacy options.
Fertility counseling	Integrates fertility preservation protocols directly into gynecologic survivorship guidelines.	Provides structured onco-fertility pathways through dedicated fertility-sparing treatment guidelines.	Mandates multidisciplinary team (MDT) review at a specialized center to manage reproductive goals.

6.5.2 Management of vulvar cancer during pregnancy

Table 21. Comparative evidence from source guidelines for management of vulvar cancer during pregnancy

Clinical Domain	NCCN Guidelines	ESGO Guidelines	BGCS Guidelines
Multidisciplinary team (MDT) strategy	Mandates immediate coordination with maternal-fetal medicine specialists to balance maternal treatment timelines with fetal development.	Outlines highly formalized workflows requiring joint oncologic-perinatal tumor boards at a dedicated, specialized center.	Emphasizes individualized case-by-case evaluation via a centralized Gynecological Oncology Centre MDT.
Staging and imaging restrictions	Recommends pelvic and abdominal MRI without gadolinium contrast to avoid potential fetal toxicities associated with standard CT staging.	Mandates non-contrast MRI and inguinofemoral ultrasound. Formally bans radioactive tracers or standard CT imaging.	Endorses clinical examination and targeted ultrasound or non-contrast MRI to rule out macroscopic groin node involvement.
Primary vulvar resection	Recommends immediate radical local excision for early-stage disease, aiming for negative	Mandates radical local excision performed without delay across all trimesters to	Confirms local tumor resection is safe (particularly in the 2nd/3rd trimesters), but notes safe deferral

Clinical Domain	NCCN Guidelines	ESGO Guidelines	BGCS Guidelines
	surgical margins regardless of trimester.	achieve clear pathological margins.	is possible for highly indolent, microinvasive lesions under strict surveillance.
Inguinofemoral lymph node management	Recommends standard surgical groin node dissection if invasion (>1) mm. Sentinel lymph node (SLN) mapping is restricted due to radiation/blue-dye risks.	Recommends surgical node staging if technically feasible. Recommends restricting SLN mapping (using Indocyanine Green) strictly to prospective clinical trials.	Advises performing groin node dissection for symptom/oncologic control, but supports deferring groin staging until the postpartum period if there is no radiological/clinical suspicion of metastasis. Fully contraindicates antenatal technetium-based SLN.
Chemotherapy and radiotherapy	Strictly contraindicates pelvic radiation during pregnancy. Systemic chemotherapy (e.g., cisplatin) is contraindicated in the 1st trimester but considered in later stages.	Explicitly bans pelvic radiotherapy due to absolute fetal lethality. Limits platinum-based chemotherapy strictly between gestational weeks 12 and 35.	Prohibits antenatal pelvic radiation. Allows systemic platinum-based agents in the 2nd and 3rd trimesters if advanced or node-positive disease requires cytoreduction.
Mode of delivery guidelines	Recommends standard obstetric indications dictate delivery, unless a large, unhealed vulvar wound requires a primary Cesarean section.	Recommends Cesarean delivery if there is residual vulvo-vaginal disease. Allows vaginal delivery only if the primary tumor has been completely excised with negative margins.	Advises that delivery planning is dependent on the extent of vulvar reconstruction, preference for Cesarean to avoid wound breakdown, and timing delivery at least 3 weeks after any chemotherapy.

6.6 Supportive and pallitative care for vulvar cancer

Table 22. Comparative evidence from source guidelines for supportive and palliative care for vulvar cancer

Component	NCCN (2024)	ESGO (2021)	BGCS (2022)
Analgesic protocols	Adherence to the **WHO** analgesic ladder with concurrent early palliative referral. Palliative radiotherapy recommended for osseous metastases.	Utilization of multimodal analgesia, incorporating NSAIDs, opioids, and adjuvant medications to optimize pain control.	Systematic pain assessments with a preference for non-opioid pharmacological interventions as first-line therapy.
Hemostasis and ulceration	Radiotherapy for hemostatic control; application of topical tranexamic acid for localized management.	Focused radiotherapy or arterial embolization for the management of refractory hemorrhagic episodes.	Chemical cautery (silver nitrate) for minor bleeding; radiotherapy indicated for major hemorrhage.
Integumentary and wound Care	Multidisciplinary management including surgical debridement and specialized dressings.	Optimization of dressing change frequency; consideration of Vacuum-Assisted Closure (VAC) therapy for complex wounds.	Application of antimicrobial dressings; specialist referral to tissue viability nursing services.
Psychosocial intervention	Universal psychosocial screening and integrated mental health services as a standard of care.	Routine use of distress thermometry and formal referral to clinical psychology.	Implementation of holistic needs assessments (HNA) at the point of initial diagnosis.
Nutritional optimization	Early dietician involvement; administration of enteral or parenteral nutrition in	Primary reliance on oral nutritional supplements; percutaneous endoscopic gastrostomy (PEG) for long-term requirements.	Standardized malnutrition screening utilizing the Malnutrition Universal Screening Tool (MUST) score.

Component	NCCN (2024)	ESGO (2021)	BGCS (2022)
	cases of bowel obstruction.		
Lymphedema management	Application of compression garments and manual lymphatic drainage (MLD).	Physiotherapeutic intervention and dermatological care to mitigate the risk of cellulitis.	Specialist referral to dedicated lymphedema clinics for comprehensive management.
Terminal care trajectory	Proactive advance care planning and hospice referral for end-of-life management.	Integration of palliative services early in the disease trajectory 6 months prognosis).	Facilitation of discussions regarding the patient's preferred place of death and terminal care wishes.

7.0 GOSK recommendations

7.1 Diagnostic evaluation

Table 23. GOSK recommendations for diagnostic evaluations of vulvar cancer

Diagnostic Aspect	GOSK recommendations
Clinical history and risk assessment	Obtain a comprehensive clinical history, including vulvar pruritus, pain, bleeding, discharge, dysuria, dyspareunia, presence of a vulvar mass or ulcer, changes in lesion size or appearance, lesion duration, smoking history, immunosuppression (including HIV), persistent HPV infection, chronic vulvar dermatoses, and previous vulvar intraepithelial neoplasia (VIN).
Physical examination and tumor assessment	Perform a comprehensive pelvic examination without anesthesia to assess lesion size, multifocality, ulceration, fixation, involvement of adjacent structures (vagina, urethra, anus, perineum), and bilateral inguinofemoral lymphadenopathy. The cervix and vagina should be visualized with a speculum for abnormalities, and a bimanual examination to assess the uterus and adnexa. Digital rectal examination should be performed to assess the mucosa and anus for abnormalities. A systemic examination must be performed to evaluate for metastatic disease. Evaluation should actively exclude synchronous or metastatic disease arising from vaginal, colorectal, anorectal, or bladder malignancies.
Laboratory tests	Baseline laboratory investigations should include a complete blood count, renal function tests, and liver function tests. HPV DNA testing and pap smears should be done as part of screening for cervical cancer. Endometrial sampling should be considered in patients presenting with abnormal uterine bleeding to exclude endometrial pathology.
Histopathological diagnosis	Perform examination with or without anaeshesia and incisional biopsy via Keyes punch. In highly selected cases with small, unifocal lesions less than 2 cm, where a 1 cm lesion-free margin can be achieved, consider excisional biopsy as an alternative diagnostic approach in low-resource settings or when follow-up may not be possible. The biopsy procedure must obtain tissue of sufficient depth to permit comprehensive evaluation of the basement membrane and underlying stroma. In cases of multifocal disease, perform examination under anaesthesia. Obtain multiple biopsies from distinct affected areas and ensure representative sampling. Biopsy all suspicious sites showing a cauliflower-like texture, irregular mass, chronic non-healing ulcer with raised edges, or thick, scaly white plaque (leukoplakia) with rough, variegated pigmentation. Perform proctoscopy and obtain a biopsy for suspicious lesions. If the patient has urinary symptoms, perform cystoscopy and sample suspicious lesions.
Local staging - imaging	For patients with Stage IB or higher disease, pelvic magnetic resonance imaging (MRI) is recommended, where available, to assess the local extent of the primary tumor. Where MRI is unavailable, a pelvic computed tomography (CT) with contrast may be done.
Imaging for metastatic disease	CT with contrast of the abdomen, pelvis, and chest should be done to detect distant metastases and for staging. In resource-limited settings, a chest X-ray may be used as an alternative to a chest CT where clinically appropriate. Positron emission tomography-computed tomography (PET-CT) may be done when accessible for disease staging.
Surgical staging	Perform vulvectomy or wide local excision, and nodal assessment for all operable tumors staged FIGO 1B to 3B. For Stage 1B lateralized tumors (more than 2 cm from the midline), perform an ipsilateral sentinel lymph node biopsy (SLNB) as a targeted diagnostic method. For central tumors within 2 cm of the midline, perform bilateral SLNB. If SLNB is positive or unavailable, perform a complete bilateral inguinofemoral lymph node dissection. For FIGO Stage 2 to Stage 3B, perform bilateral complete inguinofemoral nodal dissection.

7.2 Management of vulvar squamous cell, basal cell and adenocarcinoma and

Table 24. GOSK recommendations for treatment of squamous cell, basal cell and adenocarcinoma

FIGO Stage	GOSK recommendations
FIGO stage 1A	• Surgical intervention: Perform a simple partial vulvectomy or a wide local excision with ≥1cm macroscopic margins. Re-excision can be considered for positive margins. Do not administer adjuvant systemic therapy following complete excision with negative margins. • Administer radiotherapy if the patient is not a candidate for surgery or re-excision of positive margins is not feasible.
FIGO stage 1B	• Surgical intervention: Perform radical wide local excision or partial vulvectomy with ≥1 cm surgical margins. Ipsilateral sentinel lymph node biopsy (SLNB) should be performed for lateralized tumors (<2cm from the midline) for eligible patients. For central tumors within 2 cm of the midline, perform bilateral SLNB. Where SLNB is positive or unavailable, complete ipsilateral inguinofemoral lymphadenectomy should be performed for lateral tumors. Bilateral nodal dissection must be performed for midline lesions. • Systemic therapy: Administer concurrent cisplatin (50 mg/m²) or carboplatin (AUC 2) for 6 cycles with radiotherapy as adjuvant therapy in cases with positive margins, two or more microscopic positive lymph nodes, or lymphovascular space invasion (LVSI). Primary concurrent chemoradiotherapy (CCRT) is recommended for patients who are not surgical candidates. • Radiation control: Restrict radiotherapy to cases with unresectable margins or to patients who are medically unfit for primary surgery.
FIGO stage 2	• Surgical intervention: Perform a wide local excision or radical vulvectomy with bilateral inguinofemoral nodal assessment. Offer sentinel lymph node biopsy (SLNB) to eligible patients. If SLNB is unavailable or contraindicated, proceed with a complete bilateral inguinofemoral lymphadenectomy. Refer patients for multidisciplinary team review if urinary or anal involvement is suspected. • Systemic therapy: Administer concurrent Cisplatin (50 mg/m²) or Carboplatin (AUC 2) for 6 cycles with radiotherapy as adjuvant therapy in cases with positive margins, two or more microscopic positive lymph nodes, or lymphovascular space invasion (LVSI). Primary concurrent chemoradiotherapy (CCRT) is recommended for patients who are not surgical candidates or to downstage tumors involving midline structures, with the aim of achieving organ preservation and increasing the likelihood of complete (R0) surgical resection. • Radiation control: Administer concurrent chemoradiotherapy (CCRT) for close or positive margins, extra nodal involvement, or the presence of LVSI. Standalone radiation therapy should be administered to patients with poor tolerance for chemotherapy, such as those with a performance status of 3 or significant comorbidities
FIGO stage 3A-B	• Surgical intervention: Perform complete primary resection and bilateral inguinal-femoral nodal dissection. • Systemic therapy: Administer concurrent chemoradiotherapy (cisplatin (50 mg/m² or carboplatin AUC 2 weekly for 6 cycles) to patients who are not surgical candidates or to downstage tumors involving midline structures, with the aim of achieving organ preservation and increasing the likelihood of complete (R0) surgical resection. • Radiation control: Administer Cisplatin (50 mg/m²) or Carboplatin AUC 2 weekly for 6 cycles with radiotherapy for close or positive margins, extra nodal involvement, or the presence of LVSI. Standalone radiation therapy should be administered to patients with poor tolerance for chemotherapy, such as those with a performance status of 3 or significant comorbidities.
FIGO stage 3C	• Surgical intervention: Perform surgical interventions for palliative debulking for symptomatic relief only.

FIGO Stage	GOSK recommendations
	• Systemic therapy: Administer primary CCRT Cisplatin (50mg/m²) or Carboplatin AUC 2 + paclitaxel (175mg/m²) for 6 cycles paired with bevacizumab (15mg/kg) or pembrolizumab (200mg every 3 weeks or 400mg every 6 weeks) for up to 24 months or until there is disease progression or unacceptable toxicity. • Radiation control: Deliver CCRT to achieve locoregional disease control.
FIGO stage 4A	• Surgical intervention: Perform palliative surgery for symptom relief. Pelvic exenteration may be considered in highly selective cases within expert centers. • Systemic therapy: Administer primary CCRT. cisplatin (50mg/m²) + paclitaxel (175mg/m²) for 6 cycles paired with bevacizumab (15mg/kg) or pembrolizumab (200mg every 3 weeks or 400mg every 6 weeks) until there is disease progression or unacceptable toxicity. Consider neoadjuvant chemotherapy to downstage tumors prior to reassessment. • Radiation control: Deliver primary CCRT (cisplatin and paclitaxel) for 6 cycles in cases unresectable disease.
FIGO stage 4B	• Surgical intervention: Restrict surgical intervention to palliative operations indicated for symptom management. • Systemic therapy: Administer 6 cycles of platinum-based therapy (cisplatin 50mg/m² and paclitaxel 175mg/m²). Consider bevacizumab (15 mg/kg) and pembrolizumab (200 mg every 3 weeks or 400 mg every 6 weeks) until there is disease progression or unacceptable toxicity. • Radiation control: Deliver targeted palliative radiotherapy restricted to fields requiring localized symptom and pain control.
Multidisciplinary Team Review *All cases at FIGO Stage IB or higher should undergo formal review by a multidisciplinary team (MDT) to ensure optimal treatment planning.* *SLNB is indicated for tumors size of 4cm or less.*	

FIGO stage	GOSK recommendations for post-treatment surveillance
FIGO 1A	For follow-up, patients should undergo clinical examination every 3 months during the first 2 years, then every 6 months for years 3–5, and annually thereafter.
FIGO 1B-3B	For follow-up, conduct a clinical examination every 3 months for the first 2 years, then every 6 months for the next 3 years, and annually thereafter for life. Perform a baseline CT scan and consider annual CT imaging as indicated.
FIGO 3C	Perform a clinical examination monthly for 6 months, and then every 3 months for life. Perform annual CT imaging for 3 years then on a need only basis if there are clinical signs or symptoms.
FIGO 4A	Perform an individualized clinical assessment monthly to monitor efficacy. Mandate a regional MRI or CT evaluation after 3 cycles of chemotherapy to assess objective response.
FIGO 4B	Perform an individualized clinical follow-up on a monthly schedule. Mandate periodic imaging (CT, MRI, or PET) every 2–4 cycles of systemic therapy.

Table 25. GOSK recommendations for post-treatment surveillance

FIGO stage	GOSK recommendations
FIGO 1A	For follow-up, patients should undergo clinical examination every 3 months during the first 2 years, then every 6 months for years 3–5, and annually thereafter.
FIGO 1B-3B	For follow-up, conduct a clinical examination every 3 months for the first 2 years, then every 6 months for the next 3 years, and annually thereafter for life. Perform a baseline CT scan and consider annual CT imaging as indicated.
FIGO 3C	Perform a clinical examination monthly for 6 months, and then every 3 months for life. Perform annual CT imaging for 3 years then on a need only basis if there are clinical signs or symptoms.

FIGO stage	GOSK recommendations
FIGO 4A	Perform an individualized clinical assessment monthly to monitor efficacy. Mandate a regional MRI or CT evaluation after 3 cycles of chemotherapy to assess objective response.
FIGO 4B	Perform an individualized clinical follow-up on a monthly schedule. Mandate periodic imaging (CT, MRI, or PET) every 2–4 cycles of systemic therapy.

7.3 Management of vulvar melanoma

Table 26: GOSK recommendations for the treatment of vulvar melanoma

FIGO stage	GOSK recommendations
AJCC stage I (A/B)	Surgical intervention: Perform wide local excision (WLE) with 1–2 cm margins. If invasion depth exceeds 0.8 mm or high-risk features such as ulceration are present, conduct a sentinel lymph node (SLN) biopsy. If SLN biopsy is not available, perform ipsilateral groin node dissection for lateral disease or bilateral inguinal-femoral node dissection for midline tumors. Systemic therapy: administer adjuvant immunotherapy using pembrolizumab (200mg every 3 weeks) or nivolumab (480mg every 4 weeks for 12 months) for high-risk patients (positive or close histology margins or ulceration) until disease progression or unacceptable toxicity occurs. Radiation control: Consider adjuvant radiotherapy (RT) for close surgical margins (<10 mm) only when surgical re-excision is technically unfeasible.
AJCC stage II	Surgical intervention: Perform a radical WLE with 1 to 2 cm margins, along with bilateral inguinofemoral lymphadenectomy (IFLND). Systemic therapy: Administer adjuvant PD-1 inhibitor therapy with pembrolizumab (200mg every 3 weeks) or nivolumab (240mg every 2 weeks or 480mg every 4 weeks for 12 months) for high-risk patients until disease progression or unacceptable toxicity occurs. Radiation control: Provide adjuvant radiation for tumors with invasion depth greater than 4 mm or with positive or inadequate surgical margins.
AJCC stage III	• Surgical intervention: Conduct a wide local excision or vulvectomy with a complete bilateral inguinal-femoral lymph node dissection. • Systemic therapy: Administer combination immunotherapy: Nivolumab (1mg/kg every 3 weeks) and ipilimumab (3mg/kg every 3 weeks) for 4 cycles, then maintenance therapy with nivolumab 240mg every 2 weeks until disease progression or unacceptable toxicity. For BRAF V600E mutations, administer the targeted agents dabrafenib (150 mg twice daily) and trametinib (2 mg once daily) until disease progression or unacceptable toxicity. Use as adjuvant therapy or as primary treatment for poor surgical candidates. Radiation control: Provide adjuvant radiotherapy for regional control in cases with bulky nodal involvement or narrow surgical margins.
AJCC stage IV	Surgical Intervention: Limit surgery to palliative debulking for symptomatic local disease control. Systemic therapy: Initiate dual checkpoint inhibition combination immunotherapy nivolumab (1mg/kg every 3 weeks) and ipilimumab (3mg/kg every 3 weeks) for 4 cycles then maintenance therapy with nivolumab 240mg every 2 weeks until there is disease progression or unacceptable toxicity. For BRAF V600E mutations, administer targeted agents dabrafenib (150 mg twice daily) and trametinib (2 mg once daily) until there is disease progression or unacceptable toxicity. Radiation control: Provide palliative radiotherapy for symptomatic visceral or bone metastases.

7.3 Post-treatment surveillance of vulvar melanoma

Table 27. GOSK recommendations for post-treatment surveillance of vulvar melanoma

AJCC stage	GOSK recommendations
AJCC stage 1	Document clinical history and perform physical examinations every 3 to 6 months for 5 years, then annually for life.
AJCC Stage 2	Perform clinical evaluations and obtain a comprehensive history every 3 months for the first 2 years, every 6 months during years 3 to 5, and annually thereafter. Order diagnostic CT or MRI imaging if there is clinical suspicion or symptoms.
AJCC stage 3	Schedule clinical evaluations every 3 months for the first 2 years, every 3 to 12 months during years 3 to 5, and annually thereafter. Arrange routine surveillance CT scans, and request a cerebral MRI if neurological symptoms arise.
FIGO 4	Individualize surveillance and monitor palliative symptom burden. Schedule chest, abdomen, and pelvis CT scans every 6 to 12 months. Perform brain MRI as clinically indicated for neurological assessment.

7.4 Management of vulvar sarcoma

Table 28. GOSK recommendations for the treatment of vulvar sarcoma

Treatment aspect	GOSK recommendations
Primary surgical intervention	Perform a radical wide excision with histologically clear margins of at least 1 cm. Integrate a multidisciplinary team (MDT) for reconstructing large defects, involving reconstructive surgeons, urologists for urinary tract involvement, and general surgeons for anal sphincter involvement.
Regional lymph node management	Perform nodal dissection primarily for high-grade malignancies or advanced clinical presentations.
Adjuvant radiotherapy (RT)	Administer radiotherapy if high-risk features are present, such as elevated mitotic indices, lymphovascular space invasion (LVSI), close or positive margins, large tumor volume (>5 cm), or unresectable disease.
Adjuvant chemotherapy	Initiate adjuvant chemotherapy for leiomyosarcoma and high-risk histology with: • 1st line: Administer doxorubicin 20 mg/m2 Days 1-3 every 21 days for 6 cycles. • For patients with poor tolerance to doxorubicin: Administer gemcitabine 750–900 mg/m2 on Days 1 and 8, and docetaxel 75–100 mg/m2 on Day 8, every 21 days for 6 cycles. • Enroll maintenance patients with high mitotic indices into clinical trials.
Advanced / Metastatic disease	Systemic therapy: Prioritize the above chemotherapy regimens. For chemo-resistant disease, consider targeted therapy with pazopanib 400–800 mg orally once daily. Continue until disease regression or unacceptable toxicity, adjusting dosage as needed. For high mitotic index disease, consider clinical trial enrollment for immunotherapy.

7.5 Post-treatment surveillance of vulvar sarcoma

Table 29. GOSK recommendations for post-treatment surveillance of vulvar sarcoma

Surveillance component	Years 1 to 2 post-treatment	Years 3 to 5 post-treatment	Year 5+ (Long-Term)
Interval clinical evaluation (History and examination)	Conduct assessments every 3 months.	Conduct assessments every 6 months.	Conduct assessments annually.
Pelvic cross-sectional imaging (MRI or CT)	Perform every 3 to 6 months if positive surgical margins were positive.	Perform every 6 to 12 months if surgical margins were positive.	Perform as clinically indicated by symptoms.
Chest imaging: CT scan where available or Chest Xray in resource limited settings	Perform every 3 to 6 months based on the presence of positive surgical margins or high-grade histology.	Perform every 6 to 12 months if surgical margins were positive or high-grade histology.	Perform as clinically indicated by symptoms

7.6 Special histological subtypes

Verrucous vulvar cancer is a rare subtype of squamous cell carcinoma characterized by slow-growing, warty, cauliflower-like lesions on the vulva. It exhibits local invasiveness its potential for metastasis is low. Surgical excision, either wide local excision or vulvectomy, remains the primary treatment because the tumor is resistant to radiotherapy. Incomplete excision increases the risk of recurrence (8). The post-treatment surveillance schedule for verrucous carcinoma of the vulva requires clinical examinations every three to six months during years one and two, which represents the phase of highest statistical risk for local recurrence. This frequency shifts to examinations every six to twelve months for years three through five, followed by annual, lifelong monitoring beyond year five to detect late localized recurrences.

7.7 Fertility and reproductive considerations

Table 30. GOSK recommendations for fertility considerations in the management of vulvar cancer

Clinical aspect	GOSK recommendations
Surgical interventions	Perform radical partial vulvectomy or wide local excision, ensuring margins of at least 1 cm and sentinel lymph node (SLN) biopsy for unifocal tumors with at least 1 mm depth of invasion to reduce morbidity compared to complete groin dissection.
Fertility preservation	Perform laparoscopic ovary transposition to move ovaries out of the radiation field. Where available, consider embryo and oocyte cryopreservation.
Uterine management	Use adjunct GnRH agonists to reduce chemotherapy-induced damage: • Leuprolide acetate-3.75 mg intramuscularly monthly or 11.25 mg every 3 months. • Goserelin-3.6 mg subcutaneous implant every 28 days or 10.8mg every 3 months Employ advanced radiotherapy techniques to minimize uterine radiation exposure.
Survivorship	All patients who wish to preserve future fertility must receive counseling on how treatment options may affect fertility, and fertility preservation protocols should be integrated into survivorship care.

7.8 Vulvar cancer during pregnancy

Table 31. GOSK recommendations for the management of vulvar cancer during pregnancy

Management aspect	GOSK recommendations
Multidisciplinary team approach	Pregnant women with vulvar cancer must be managed by a multidisciplinary team of gynecologic oncologists, maternal-fetal medicine specialists, and neonatologists.
Surgical management	Perform wide local excision with 1–2 cm margins. Where available, consider sentinel lymph node biopsy (SLNB) using low-dose technetium-99m (Tc-99). Postpone full inguinofemoral lymphadenectomy until the postpartum period unless there is strong clinical suspicion of nodal disease.
Radiotherapy	Delay adjuvant or definitive radiotherapy during pregnancy until approximately 6 to 8 weeks postpartum.
Chemotherapy	Administer systemic therapy between gestational age 12 and 34 weeks and stop 3 weeks before delivery. Avoid Immunotherapy in pregnancy.
Mode of delivery	Spontaneous vaginal delivery is often achievable; however, an elective Cesarean section may be indicated for large tumors or to prevent wound dehiscence after recent surgery.
Diagnostic imaging	Perform pelvic MRI without gadolinium for local staging during pregnancy. Defer PET-CT and chest CT until after delivery.
Specific gestational considerations	Early pregnancy (first/second trimesters): Surgery is prioritized to prevent disease progression, as delays can lead to a higher risk of tumor upstaging. Late pregnancy (3rd trimester): Definitive surgical management and any necessary adjuvant treatments should be deferred until a planned delivery has occurred. Safety of blue dye: The use of isosulfan or methylene blue dye for node mapping is generally not recommended during pregnancy due to the risk of maternal anaphylaxis and subsequent fetal distress

7.9 Postoperative care and surveillance

Table 32. GOSK recommendations for postoperative surveillance for vulvar cancer

Phase	Timeframe	GOSK recommendations
Acute phase	0–72 Hours	• Hemodynamic monitoring: assess and document vital signs, fluid balance, and hemoglobin levels. • Pain management: Ensure analgesia with a multimodal approach. • Early mobilization: Initiate VTE prophylaxis and early ambulation • Functional assessment: Monitor and document bowel motility and urinary output.
Early sub-acute	2 Weeks	• Wound evaluation: assess and document surgical site integrity. Plan to remove sutures or staples once the site is healed. • Histopathology review: follow up on pathology results to plan adjuvant treatment. Complication Screening: perform clinical assessment for lymphedema, infection or other complications
Intermediate phase	1 Month	• Treatment transition: Initiate adjuvant therapies after 4 to 8 weeks to ensure wound healing. • Psychosocial screening: Assess the emotional well-being and refer to support services when necessary.
Long term	3 months following completion of primary treatment	Clinical assessment schedule is based on histological type and stage; Clinical examination should be performed to establish post-treatment baseline status, assess treatment response, and identify persistent symptoms or treatment-related complications. Imaging; Pelvic MRI should be performed as the preferred imaging modality to assess treatment response, establish post-treatment radiological baseline status, and identify residual disease.

Phase	Timeframe	GOSK recommendations
		CT should be performed where MRI is unavailable or contraindicated. PET-CT, where available, may provide additional value in detecting residual, recurrent, or occult metastatic disease. Imaging findings should guide subsequent surveillance and treatment planning.
Patients with HPV-related disease should have cervical and vaginal cancer screening as part of post treatment surveillance.		

7.10 Management of recurrent and advanced vulvar cancer

Table 33. GOSK Recommendations for the management of recurrent vulvar cancer

Features	GOSK recommendations
Confirmation of recurrence	Recurrent disease should be confirmed histologically before initiation of treatment. A comprehensive history and a thorough general and pelvic examination must be done. A complete pelvic examination must be performed, including speculum, bimanual, and digital rectal examination. Cystoscopy and proctoscopy should be done for patients with urinary and gastrointestinal symptoms. All abnormal lesions should be biopsied and sent for histopathology. Where available perform additional molecular testing (p40, p63, CK5/6, SOX10, S100, Melan-A, HMB-45, CK7, CEA, Ki-67, and PD-L1) may be considered for recurrent, advanced, or metastatic disease, or for rare histological subtypes, to guide targeted therapy selection. Imaging should be performed to determine the site and extent of recurrence, assess distant metastases, and guide treatment planning. MRI, contrast-enhanced CT or PET-CT may be considered based on clinical indication and resource availability.
Multidisciplinary team (MDT) review	Multidisciplinary team review is mandatory for recurrent disease. The team should include gynecologic oncologists, pathologists, radiation oncologists, medical oncologists, and other specialists as appropriate for the extent of the disease.
Radiation-naïve patient **Prior vulvar irradiation**	For radiation-naive patients, concurrent chemoradiotherapy (CCRT) with platinum-based regimens is recommended. Surgical treatment by a radical wide local excision on patients with recurrent vulvar cancer and resectable tumors may be considered for patients with resectable disease. Patients with prior irradiation should receive systemic chemotherapy (carboplatin AUC 4-6 or Cisplatin 70mg/m^2 and Paclitaxel 175mg/m^2 for platinum sensitive disease). Repeat radiation can be considered in consultation with radiation oncologists.
Nodal recurrence	Surgical resection must be performed for patients with operable nodal disease. For inoperable presentations, management shifts to systemic chemotherapy or definitive CCRT.
Distant metastasis	Systemic therapy: - 1st line: Administer doublet chemotherapy carboplatin AUC 4-6 or cisplatin 70mg/m^2 and paclitaxel 175mg/m^2 for platinum-sensitive disease or cisplatin(50mg/m^2) and gemcitabine (800-1250mg/m^2 day 1 and 8 every 21 days) for 6 cycles. - 2nd line: For platinum-resistant disease, consider paclitaxel 175mg/m^2 every 21 days for 6 cycles, and Pembrolizumab 200mg IV every 21 days or 400mg IV every 42 days until disease progression or unacceptable toxicity for tumors expressing the PD-L1 biomarker. - 3rd line: administer gemcitabine (800-1250mg/m^2 on days 1 and 8 every 21 days) or fluorouracil (1000mg/m^2 on days 1-4 every 28 days) as monotherapy for 6 cycles. - For chemo resistant disease, administer oral erlotinib (150mg daily until disease progression or unacceptable toxicity) to target epidermal growth factor receptor overexpression.
p16INK4a (p16); tumor protein p53 (p53), p40, p63; cytokeratin 5/6 (CK5/6); SRY-box transcription factor 10 (SOX10); S100 calcium-binding protein (S100); melanoma antigen recognized by T-cells 1 (Melan-A); human melanoma black 45 (HMB-45); cytokeratin 7 (CK7); carcinoembryonic antigen (CEA); marker of proliferation Ki-67 (Ki-67); programmed death-ligand 1 (PD-L1)	

7.10 Management of vulvar melanoma recurrence

Table 34. GOSK recommendations for management of vulvar melanoma recurrence

Type of recurrence	Treatment strategy
Confirmation of recurrence	Recurrent disease should be confirmed histologically before initiation of treatment. A comprehensive history and a thorough general and pelvic examination must be done. A complete pelvic examination must be performed, including speculum, bimanual, and digital rectal examination. Cystoscopy and proctoscopy should be done for patients with urinary and gastrointestinal symptoms. All abnormal lesions should be biopsied and sent for histopathology. Imaging should be performed to determine the site and extent of recurrence, assess distant metastases, and guide treatment planning. MRI, contrast-enhanced CT or PET-CT may be considered based on clinical indication and resource availability.
Multidisciplinary team (MDT) review	Multidisciplinary team review is mandatory for recurrent disease. The team should include gynecologic oncologists, pathologists, radiation oncologists, medical oncologists, and other specialists as appropriate for the extent of the disease.

Type of recurrence	Treatment strategy
Local recurrence (Resectable)	Perform surgical resection with clear margins is the primary treatment. Avoid radical exenterative procedures unless there is a high probability of cure. Adjuvant therapy: Consider adjuvant radiotherapy only if surgical margins are close/positive and re-excision is not feasible.
Regional nodal recurrence	Surgical resection: If the patient has not undergone prior lymphadenectomy, perform a radical inguinofemoral dissection. Unresectable nodes: For fixed or recurrent nodes in a previously dissected groin, initiate systemic therapy. Definitive chemoradiation is an alternative if the field was not previously irradiated
Distant metastasis / Unresectable	Initiate combination immunotherapy with nivolumab (1mg/kg every 3 weeks) and ipilimumab (3mg/kg every 3 weeks) for 4 cycles then maintenance therapy with nivolumab 240mg every 2 weeks until there is disease progression or unacceptable toxicity. For BRAF V600E mutations, administer targeted agents dabrafenib (150 mg twice daily) and trametinib (2 mg once daily) until there is disease progression or unacceptable toxicity if not previously administered. Consider clinical trials for nonresponsive disease.
Palliative management	Administer palliative radiotherapy for symptomatic local disease (bleeding, ulceration) or painful bone metastases. Surgery: Limit surgical intervention to palliative debulking for symptomatic relief.

7.11 Management of vulvar sarcoma recurrence

Table 35. GOSK recommendations for the management of vulvar sarcoma recurrence

Type of recurrence	Management strategy
Confirmation of recurrence	Recurrent disease should be confirmed histologically before initiation of treatment. A comprehensive history and a thorough general and pelvic examination must be done. A complete pelvic examination must be performed, including speculum, bimanual, and digital rectal examination. Cystoscopy and proctoscopy should be done for patients with urinary and gastrointestinal symptoms. All abnormal lesions should be biopsied and sent for histopathology. Imaging should be performed to determine the site and extent of recurrence, assess distant metastases, and guide treatment planning. MRI, contrast-enhanced CT or PET-CT may be considered based on clinical indication and resource availability.
Multidisciplinary team (MDT) review	Multidisciplinary team review is mandatory for recurrent disease. The team should include gynecologic oncologists, pathologists, radiation oncologists, medical oncologists, and other specialists as appropriate for the extent of the disease.
Resectable disease (Locoregional)	Wide local excision to achieve R0 clear margins. Consider postoperative external beam radiation therapy (EBRT) if there is no history of prior radiation.
Unresectable locoregional	Administer neoadjuvant radiation therapy, chemoradiation, or systemic therapy to downstage the tumor for potential subsequent surgery.
Metastatic (sarcoma)	Initiate first-line systemic anthracycline-based chemotherapy using doxorubicin(60mg/m^2) alone or combined with ifosfamide 1800mg/m^2 administered every 3 weeks.
Metastatic (leiomyosarcoma and 2nd line regiments)	Second-line: administer gemcitabine 750–900 mg/m^2 on Days 1 and 8, and docetaxel 75–100 mg/m^2 on Day 8, every 21 days for 6 cycles or administer gemcitabine (750–900 mg/m^2 on Days 1 and 8 every 21 days) and oral pazopanib 400–800 mg daily until there is disease progression or unacceptable toxicity. For chemo resistant disease, administer single-agent trabectedin (1.1mg/m^2) every 21 days for 6 cycles
Previous radiation	Apply localized low-dose palliative radiation therapy to control severe pain, tumor ulceration, or pelvic bleeding in consultation with a radio-oncologist.

7.12 Management of treatment complications in vulvar cancer

Table 36. GOSK recommendations for the management of treatment complications for vulvar cancer

System	Clinical complication	GOSK management protocols
Genitourinary	**Mucosal Irritation / Vaginitis**	Apply topical lignocaine for pain relief and initiate targeted antimicrobial therapy if secondary infections are present. The patient should use saline sitz baths or warm water rinses.
	Radiation cystitis	Manage acute urinary tract infections as indicated and use NSAIDs for chronic inflammatory pain. The patient should increase fluid intake to optimize hydration. Refer to Urology for refractory cases.
	Vesicovaginal fistula (VVF)	Catheterize the patient and refer to a urogynaecologist for surgical repair. Consider diverting urostomy if the fistula is associated with a malignant process.

System	Clinical complication	GOSK management protocols
	Vaginal stenosis	Instruct the patient to perform pelvic floor physiotherapy and use vaginal dilators systematically. Water-based lubricants should be used during intercourse. Consider vaginoplasty for severe cases.
	Vaginal atrophy / Dryness	Instruct the patient to use water-based lubricants during intercourse. Topical vaginal oestrogen may be used if there are no oncological contraindications.
	Ulceration and necrosis	Perform a biopsy to exclude disease recurrence. Further management should be based on the underlying etiology.
Gastrointestinal	**Enteritis and proctitis**	Implement a low-residue diet with adequate hydration and electrolyte replacement. Use loperamide for diarrhea and consider corticosteroid suppositories and nutritional support as needed.
	Rectovaginal fistula (RVF)	Evaluate the patient for primary surgical repair. If this is not feasible, consider fecal diversion via colostomy.
Dermatological	**Radiation dermatitis**	Apply non-fragrant emollients for dry desquamation. Use silver sulfadiazine for moist desquamation and infection prophylaxis.
Musculoskeletal	**Pelvic insufficiency fractures**	Incorporate multimodal analgesia, supplement with calcium and vitamin D, and provide structured physiotherapy to support mobility.
Oncology	**Secondary malignancies**	Incorporate surveillance for secondary cancers caused by radiation or therapy.

7.13 Supportive and palliative care in vulvar cancer management

Table 37. GOSK recommendations for supportive and palliative care in the management of vulvar cancer

Component	GOSK recommendations
Analgesic protocols	Follow the World Health Organization (WHO) Analgesic Ladder, emphasizing multimodal analgesia with nonsteroidal anti-inflammatory drugs (NSAIDs), opioids, and adjuvant medications. Escalate analgesic therapy according to clinical response. Initiate early involvement of specialized palliative care services and consider radiotherapy (RT) for the management of painful bone metastases.
Hemostasis and ulceration	Apply topical tranexamic acid for superficial bleeding. For refractory hemorrhage associated with malignant ulceration, consider advanced interventions such as localized radiotherapy (RT) or arterial embolization.
Wound management	Implement a multidisciplinary approach for complex oncological wounds, including surgical debridement and application of specialized antimicrobial dressings. Consider vacuum-assisted closure (VAC) therapy and refer to tissue viability specialists as indicated.
Psychosocial support	Conduct psychosocial screening and perform holistic needs assessments (HNA) at diagnosis. Integrate mental health services to manage psychological distress and morbidity.
Nutritional optimization	Screen for malnutrition using the malnutrition universal screening tool (MUST). Manage nutritional deficits with a stepwise approach: initiate oral supplementation, then escalate to enteral nutrition (e.g., PEG tubes), or parenteral nutrition as needed, especially in patients with impaired performance status.
Lymphedema care	Implement combination therapy with compression garments, targeted physical therapy, and strict skin care regimens to reduce the risk of secondary cellulitis.
Terminal trajectory	Initiate advance care planning (ACP) and discuss patient preferences for place of death. Refer to hospice services for terminal patients, preferably when life expectancy is under six months.
*The **WHO Analgesic Pain Ladder** is a three-step clinical framework that guides the sequential escalation of cancer pain management from non-opioid medications (Step 1) for mild pain, to weak opioids (Step 2) for moderate pain, and finally to strong opioids (Step 3) for severe pain. This system mandates administering medications at regular intervals ("by the clock") using non-invasive routes ("by the mouth") whenever possible, while incorporating adjuvant drugs at any stage to optimize individual pain relief.* *A **Holistic Needs Assessment (HNA)** is a structured, patient-centered tool used in oncology to identify and address the wide-ranging physical, emotional, practical, financial, and spiritual concerns of individuals living with cancer. Administered at critical clinical inflection points—such as diagnosis, treatment transitions, and disease progression—the process involves a validated questionnaire followed by a dedicated clinical consultation. This collaborative assessment culminates in a Personalised Care and Support Plan (PCSP) that triggers targeted referrals to multidisciplinary specialists, ensuring comprehensive care beyond standard medical treatment.*	

Component	GOSK recommendations
*The **Malnutrition Universal Screening Tool (MUST)** is a validated clinical framework that calculates a patient's malnutrition risk by combining scores from Body Mass Index (BMI), unintentional weight loss over three to six months, and acute illness severity . This total score categorizes patients into low, medium, or high-risk tiers, dictating immediate clinical paths from routine monitoring to specialized dietitian intervention.* ***Advance Care Planning (ACP)** is a voluntary process where individuals discuss and document their preferences for future medical care before losing decision-making capacity. It utilizes legally binding tools like an Advance Decision to Refuse Treatment (ADRT) and a Lasting Power of Attorney (LPA) to guide clinical teams. This ensures future interventions strictly respect patient autonomy during critical or end-of-life scenarios.*	

References

1. Faber MT, Sand FL, Albieri V, Norrild B, Kjaer SK, Verdoodt F. Prevalence and type distribution of human papillomavirus in squamous cell carcinoma and intraepithelial neoplasia of the vulva. Int J cancer. 2017 Sep;141(6):1161–9.
2. Ferlay J, Colombet M, Soerjomataram I, Parkin DM, Piñeros M, Znaor A, et al. Cancer statistics for the year 2020: An overview. Int J Cancer. 2021;149(4):778–89.
3. Bucchi L, Pizzato M, Rosso S, Ferretti S. New Insights into the Epidemiology of Vulvar Cancer: Systematic Literature Review for an Update of Incidence and Risk Factors. Cancers (Basel). 2022 Jan;14(2).
4. vulva @ seer.cancer.gov [Internet]. Available from: https://seer.cancer.gov/statfacts/html/vulva.html
5. Ninimiya SY, Ansu-Mensah M, Bawontuo V, Kuupiel D. Mapping evidence on ovarian, endometrial, vaginal, and vulva cancer research in Africa: a scoping review protocol. Syst Rev [Internet]. 2021;10(1):108. Available from: https://doi.org/10.1186/s13643-021-01654-0
6. No Title. Zhang, J, Zhang, Y Zhang, Z (2018) Preval Hum papillomavirus its Progn value vulvar cancer A Syst Rev meta-analysis PLoS One 13(9) https//doi.org/101371/journal.pone0204162.
7. Abu-Rustum, N. R., Yashar, C. M., Arend, R., Barber, E., Bradley, K., Brooks, R., Campos, S. M., Chino, J., Chon, H. S., Crispens, M. A., Damast, S., Fisher, C. M., Frederick, P., Gaffney, D. K., Gaillard, S., II, R. G., Glaser, S., Holmes, J., Howitt, B. pp. 117 135. https://doi. org/10. 6004/jnccn. 2024. 001. No Title.
8. Dryden SM, Reshko LB, Gaskins JT, Silva SR. Verrucous carcinoma of the vulva: Patterns of care and treatment outcomes. Cancer reports (Hoboken, NJ). 2022 Oct;5(10):e21591.