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Guidelines – Editor's choice

European Association of Urology and American Society of Clinical Oncology Guidelines on Penile Cancer: A Summary of the 2026 Guidelines Update

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Abstract

Context and objective: The 2026 European Association of Urology and American Society of Clinical Oncology (EAU-ASCO) guideline update reflects significant developments in the diagnosis and management of penile cancer. This review summarises the key changes and contrasts them with previous recommendations, with particular focus on staging, treatment, quality of life and emerging personalised approaches.

Evidence Acquisition: The summary is based on a critical appraisal of the full 2026 guideline and its underpinning systematic reviews, with comparison to earlier versions. Recommendations were informed by structured literature assessment and expert panel consensus, incorporating evaluation of benefits and harms, evidence uncertainty and patient values.

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Quality of life
Staging

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Evidence Synthesis: Major updates include refined pathological risk stratification, routine ultrasound (US)-guided nodal assessment, and broader guidance on organ-preserving surgery. There is support for selective genomic testing and clearer, restructured algorithms are introduced, including newly developed flow diagrams for nodal management, alongside an expanded evidence base for systemic therapy. Greater emphasis is placed on survivorship, centralisation of care and rationalisation of follow-up. However, many recommendations remain informed by retrospective data and expert consensus, reflecting the rarity of the disease and limited prospective evidence.

Conclusions: The updated guideline promotes more nuanced selection of organ-preserving strategies, earlier detection of regional lymphatic disease, and holistic palliative care, while reinforcing the central role of shared decision-making.

Patient summary: The new guidance for penile cancer aims to improve care, personalise treatment and better address quality of life, while acknowledging that further research is still needed.

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1. Introduction

The following summary document represents the updated European Association of Urology and American Society of Clinical Oncologists Joint Guideline for Penile Cancer for 2026 (PCG2026). The guideline provides evidence-based recommendations for the diagnosis and management of patients with penile cancer (PC). It is important, however, to recognise that clinical guidelines represent the interpretation of the best available evidence by an expert panel. Adherence without expert clinical judgement and patient partnership may not necessarily result in the best outcomes. This is particularly relevant in the context of a rare malignancy where high-level evidence is often unavailable or inconclusive. It is therefore critical to stress the importance of clinical judgement and patient preferences when making patient-centred decisions. The guideline does however provide a structured framework to support decision-making and encourage consideration of individual values, circumstances and goals of care. The guideline is not a mandate and does not purport to be a legal standard of care.

2. Evidence acquisition

For PCG2026, a broad and comprehensive literature search was conducted covering all sections of the guideline. Databases interrogated included MEDLINE, EMBASE and the Cochrane Library, covering the period from 1 February 2022 to 1 May 2025. New and relevant evidence was identified, collated and appraised through a structured assessment of the literature. The strength of each recommendation is determined by the balance between desirable and undesirable consequences of alternative management strategies, the quality of the evidence (including certainty of estimates), and the nature and variability of patient values and preferences. Strong recommendations typically indicate a high degree of evidence quality and/or a favourable balance of benefit to harm and patient preference. Weak recommendations typically indicate the availability of lower-quality evidence, and/or an equivocal balance between benefit and harm, and uncertainty or variability of patient preference [1].

3. Evidence Synthesis

3.1. Epidemiology, aetiology and pathology

The incidence of PC varies according to geographical location, race and ethnicity. PC remains a rare malignancy, although its incidence has shown a gradual increase in industrialised countries, likely due to higher human papillomavirus (HPV) infection rates [2,3]. The overall incidence in the United States of America (USA) and Europe is ~ 0.5–0.94 per 100 000 [4,5]. Conversely, in parts of South America, Southeast Asia and parts of Africa, the incidence is much higher and can account for 1–2% of malignant disease in men [5].

Risk factors for PC include HPV, phimosis, chronic penile inflammation, lichen sclerosis, smoking, ultraviolet phototherapy and low socio-economic status. In analogy to other HPV-associated cancers, HPV status may influence survival. A meta-analysis in 2018 demonstrated a significant survival advantage for HPV-positive disease—hazard ratio (HR): 0.61(95% confidence interval [CI], 0.38–0.98) [6]. Additionally, two meta-analyses demonstrated that p16 immunohistochemistry (a surrogate marker of transcriptionally active HPV) was a strong prognostic marker, showing a disease-specific survival (DSS) HR of ~ 0.45 and 5-yr DSS of ~ 88% versus 58% in p16-negative tumours [6–8]. More data are needed, underlining the importance of routine assessment of HPV status in all patients with PC.

More recently, additional biomarkers have refined prognostic stratification in PC. Aberrant p53 immunostaining, a surrogate for tumour protein p53 (TP53) mutation, has been shown to independently predict worse overall survival (OS) and cancer-specific survival (CSS), while high Ki-67 expression has been associated with a modest but significant reduction in CSS [9,10].

3.2. Pathological staging, grading and classification systems

The ninth edition of the Union for International Cancer Control/American Joint Committee on Cancer (UICC/AJCC) tumour, node, metastasis (TNM) classification subclassifies the T1 category into T1a and T1b based on the absence or presence of lymphovascular invasion (LVI) or perineural invasion (PNI) and/or poor differentiation [11,12]. Distal urethral invasion via the corpus spongiosum is not associated with adverse outcomes. Corpus spongiosum and corpus cavernosum invasion are classified as T2 and T3, respectively, reflecting their differential risks of nodal metastasis and survival, while T4 denotes invasion of adjacent structures [13,14].

The pathological nodal (pN) classification was revised in 2017 to define pN1 as up to two unilateral inguinal lymph node (LN) metastases and pN2 as ≥3 unilateral or any bilateral LN metastases, based on their prognostic difference [14,15]. Whereas pN3 includes pelvic LN metastasis or extranodal extension (ENE), retroperitoneal LN above the pelvic template are considered distant metastasis [16]. The full description of the TNM staging and prognostic groups are shown in Fig. 1.

3.3. Diagnostic evaluation and staging

3.3.1. Primary disease

PC is usually clinically evident, predominantly presenting as a raised or ulcerative lesion. Careful physical examination remains the core of diagnosis, including documentation of morphology, size, anatomical location, depth of invasion and stretched penile length.

Magnetic resonance imaging with or without artificial erection is not routinely recommended; however, it should be performed when there is uncertainty regarding invasion of the corpora cavernosa, particularly when organ-sparing treatment is being considered, or when the resectability of large (T4) tumours is in doubt [17,18].

A 2–3 mm punch biopsy should be performed where there is diagnostic uncertainty and in clinically obvious cases to guide treatment planning, including surgical staging and nonsurgical therapies. Smaller samples often fail to assess the depth of invasion or detect vascular and lymphatic emboli [19].

3.3.2. LN staging (fig. 2)

LN involvement remains the single most important predictor of survival in PC, with 5-yr survival of ~95% in pN0 disease and 35% in pN3 [20,21]. Early detection of lymphatic spread remains a crucial component of PC management, as delayed treatment likely has a significant negative effect on survival [22]. Assessment of inguinal LNs by palpation remains a mandatory component, although it is recognised to be less reliable in certain patients, and the clinical staging definitions are less helpful. Patients may have palpable LNs (cN+) because of factors unrelated to metastatic spread, such as low body fat percentage, chronic inflammatory conditions, etc. Conversely, it is challenging to reliably detect pathological LN in patients with obesity. In clinically LN-negative patients (cN0), 20–25% may harbour occult metastasis [23]. Consequently, the PCG2026 has explicitly integrated US assessment and fine-needle aspiration (US ± FNA) into the core diagnostic flow to improve characterisation of groin LN involvement. US ± FNA findings, combined with risk stratification based on tumour stage, grade and the presence of LVI or PNI, guide the need for subsequent surgical staging.

3.3.3. Clinically node negative, US ± FNA negative

In a cN0, US ± FNA-negative (US–ve) groin, patients with G1pT1a are considered too low risk for metastasis to justify surgical staging. Moderately differentiated (G2) pT1a tumours are considered intermediate-risk and are associated with a 6–8% probability of (micro-)metastatic LN disease. In intermediate-risk tumours, the risk of LN metastasis should be balanced against the morbidity of surgical staging on a case-by-case basis. pT1b G2 tumours carry a 22–30% risk of LN metastasis [24,25]. Therefore, all tumours of stage T1b or higher are defined as high risk, for which LN staging is indicated. Dynamic sentinel LN biopsy (DSNB) is identified as the preferred approach due to its high sensitivity (92–96%) and low morbidity [26–28].

3.3.4. Clinically node-positive, US ± FNA positive

In cN+, metastasis should be confirmed histologically by US ± FNA, and fluorodeoxyglucose positron emission tomography/computed tomography (FDG-PET/CT) is recommended for pelvic and distant staging due to its superior diagnostic performance compared with CT [29,30].

3.4. Managing the primary tumour

Beyond its roles in sexual function and urination, an intact and functional penis is fundamental to a patient's sense of identity, attractiveness and masculinity. Therefore, the treatment of the primary tumour aims to achieve complete resection of the cancer while preserving as much of the organ as possible, without compromising oncological outcomes. A contemporary systematic review (SR) confirmed the absence of randomised controlled or prospective comparative trials evaluating the management of the primary tumour [31]. Consequently, recommendations continue to rely on largely retrospective evidence and expert consensus, highlighting the importance of shared decision-making and clear discussion with patients about therapeutic uncertainty, anticipated outcomes and potential trade-offs.

3.4.1. Treatment of superficial noninvasive disease

Penile intraepithelial neoplasia (PeIN) may progress to invasive carcinoma in 2.6–13% of patients despite treatment [32–34]. Lesions commonly involve the mucosal surfaces of the glans or prepuce, whereas lichen sclerosus frequently affects the foreskin [33]. Wide local excision, circumcision, and partial or total glans resurfacing remain appropriate surgical options, with reported local recurrence (LR) of 0–20% [35–37]. Surgical resection is seen as advantageous as it provides complete histopathological staging, which is clinically important given that up to 20% of patients are found to harbour invasive disease [35].

Topical therapy with imiquimod or 5-fluorouracil (FU) provides an effective noninvasive alternative [38]. It is important to recognise, however, that there is no consensus

Clinical classification
T - Primary Tumour
TX Primary tumour cannot be assessed
T0 No evidence of primary tumour
Tis Carcinoma *in situ* (Penile Intraepithelial Neoplasia – PeIN)
Ta Non-invasive verrucous carcinoma*
T1 Tumour invades subepithelial connective tissue
T1a Tumour invades subepithelial connective tissue without lymphovascular invasion or perineural invasion and is not poorly differentiated
T1b Tumour invades subepithelial connective tissue with lymphovascular invasion or perineural invasion or is poorly differentiated
T2 Tumour invades corpus spongiosum with or without invasion of the urethra
T3 Tumour invades corpus cavernosum with or without invasion of the urethra
T4 Tumour invades other adjacent structures
N - Regional Lymph Nodes
cNX Regional lymph nodes cannot be assessed
cN0 No palpable or visibly enlarged inguinal lymph nodes
cN1 Palpable mobile unilateral inguinal lymph node
cN2 Palpable mobile multiple or bilateral inguinal lymph nodes
cN3 Fixed inguinal nodal mass *or* pelvic lymphadenopathy, unilateral or bilateral
M - Distant Metastasis
cM0 No distant metastasis
cM1 Distant metastasis
Pathological classification
The pT categories correspond to the clinical T categories. The pN categories are based upon biopsy or surgical excision.
pN - Regional Lymph Nodes
pNX Regional lymph nodes cannot be assessed
pN0 No regional lymph node metastasis
pN1 Metastasis in one or two inguinal lymph nodes
pN2 Metastasis in more than two unilateral inguinal nodes or bilateral inguinal lymph nodes
pN3 Metastasis in pelvic lymph node(s), unilateral *or* bilateral or extranodal extension of regional lymph node metastasis
pM - Distant Metastasis
pM1 Distant metastasis microscopically confirmed
G - Histopathological Grading
GX Grade of differentiation cannot be assessed
G1 Well differentiated
G2 Moderately differentiated
G3 Poorly differentiated
G4 Undifferentiated

Fig. 1 – UICC/AJCC eighth and ninth editions TNM clinical and pathological classification of penile cancer.

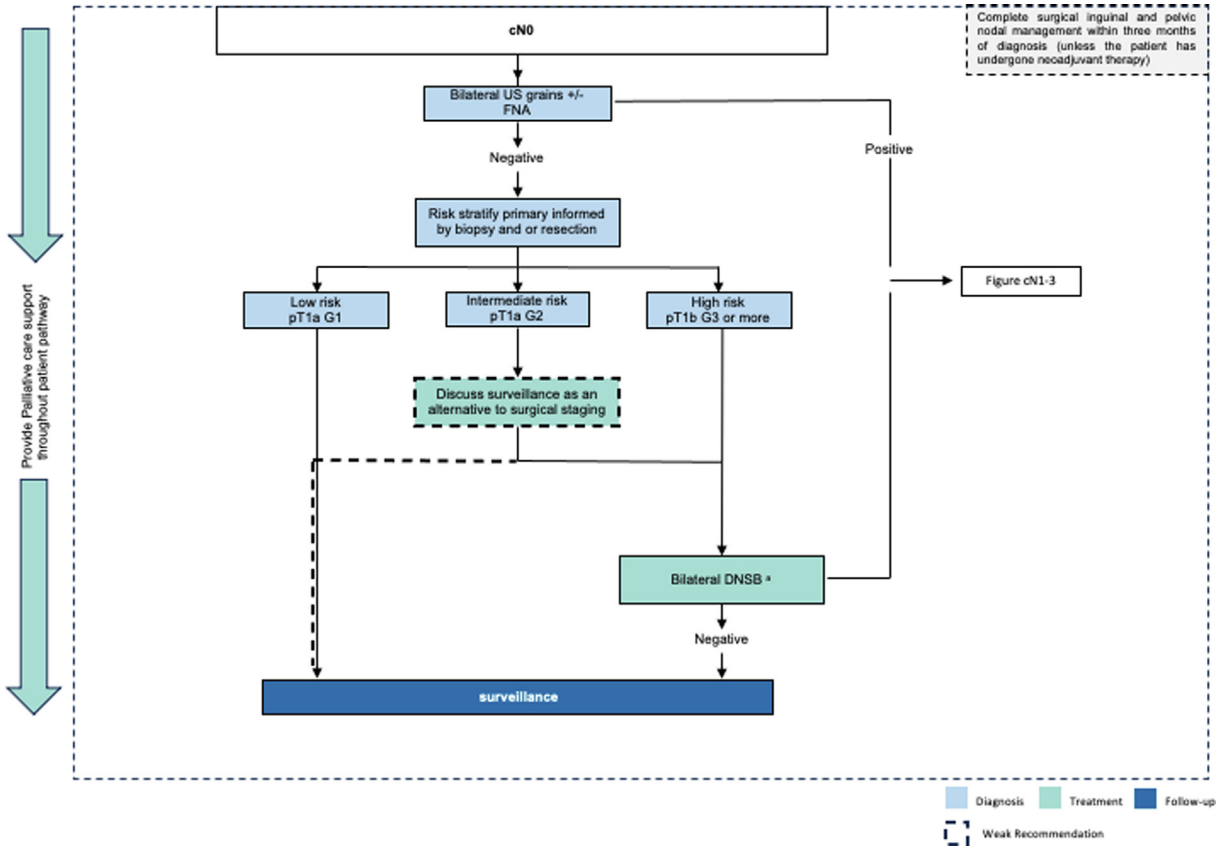

Fig. 2 – Clinically cN0 management. CXT = chemotherapy; FNA = fine-needle aspiration; DSNB = dynamic sentinel node biopsy. [a]If DSNB is not available perform inguinal lymph node dissection (open or video-endoscopic).

regarding optimal dosing schedules and treatment tolerance may limit adherence [39]. An SR based on low-quality evidence reported response and recurrence rates of 40–100% and 20% for imiquimod, compared with 48–74% and 11% for 5-FU [39]. Response to treatment must therefore be monitored carefully, and biopsy is advised when doubt persists, as incomplete response or recurrence may reflect undetected invasive disease. Repeated therapy is discouraged in this setting.

Ablation using neodymium-doped yttrium aluminium garnet (Nd:YAG) or carbon dioxide (CO_2) lasers achieve response rates of 52–100%, although LR remains frequent at 7–48% in noninvasive disease. The PCG2026 underscores the importance of adequate pretreatment histological assessment and candid counselling regarding recurrence risk and the possibility of understaging [39].

3.4.2. Treatment of invasive disease confined to the glans (cT1-T2)

In the last 2 decades, organ-sparing surgery (OSS) has become more common based on the underlying belief that LR has little impact on long-term survival, although preserving large areas of epithelium may increase the risk of later recurrence. A multi-institutional series of mostly lower-risk tumours (80%, T1; 20%, G3) reported frequent LR (30%), without adverse survival effects [40]. By contrast, higher-risk cohorts (26%, T1; 41% G3) treated with glansectomy or limited partial penectomy showed fewer local relapses, but poorer survival, even after adjustment for prognostic factors, likely reflecting aggressive tumour biology rather than inadequate surgery [41,42]. Other large studies demonstrate lower LR after non-OSS in advanced disease, supporting wider resection [43]. An SR of OSS reported a cumulative 5-yr recurrence-free rate of 82% in case series and 76.7% in non- randomised controlled trials (RCTs) [31]. Although broadly comparable to those achieved with non-OSS, the true limits of conservative approaches remain uncertain. Patients should therefore be counselled explicitly about the balance between functional preservation and the potentially higher risk of LR.

Margin status remains central to the philosophy of OSS. Evidence suggests that LR increases substantially only when the microscopic margins fall below 1 mm [44]. Standard excision should include a rim of clinically normal-appearing tissue and surrounding erythema. For bulky or higher-grade lesions where LR may have an impact on survival, adoption of a wider margin or glansectomy/partial penectomy may be prudent and should be discussed with the patient.

The management of PeIN at resection margins is also addressed in PCG2026. Data are heterogeneous, and active surveillance with or without topical therapy appears reasonable in carefully selected patients, particularly when further surgery would compromise function or quality of life (QoL) [45,46]. These options should form part of shared decision-making.

The utility of frozen section analysis for margin assessment remains unclear. A 2017 SR suggested lower recurrence but did not adjust for selection bias, and comparative data are limited [47]. However, intraoperative frozen section analysis of resection margins in cases of doubt regarding the completeness of resection may be used.

Radiotherapy (RXT) remains a valid organ-preserving option in selected patients with T1–T2 disease [31]. An SR identified 1222 men and reported a cumulative mean 5 yr recurrence-free rate of 78.6% following brachytherapy and 55.2% after external beam RXT [31]. Brachytherapy is usually limited to tumours smaller than 4 cm. While salvage surgery is often feasible after recurrence, PCG2026 emphasises careful patient selection and transparent discussion of functional sequelae.

3.4.3. *Treatment of locally advanced disease (T3/T4)*

For those patients with resectable cT3 disease involving the corpora, partial amputation remains standard practice. Radical amputation with perineal urethrostomy is reserved for situations in which adequate margins cannot be achieved without sacrificing the ability to void while standing. In those patients with extensive or ulcerated disease, complex reconstructive techniques, including flap coverage, may be required [48].

In nonresectable disease, induction chemotherapy continues to play a central role in attempts to downstage. Two SRs reported pooled objective response rates (ORRs) of 57% (95% CI: 46–67%) and 54% (95% CI: 31–76%) for taxane–platinum combinations and nontaxane–platinum regimens, respectively, but at the cost of substantial toxicity [49].

Evidence from anal and vulvar cancer supports definitive chemoradiotherapy (cRXT) for anogenital squamous cell carcinoma (SCC), but PC data remain limited. In a cohort of locoregionally advanced patients treated with curative intent cRXT, Ottenhof et al reported a 73% response rate with 39% complete response, and over half required surgery later [50]. One- and 2-yr progression-free survival (PFS) were 34% and 31%, with relatively low toxicity compared with induction chemotherapy (33% grade 3 toxicity and no grade 4–5 events) [51]. Although evidence from a single observational study is insufficient to currently recommend this strategy over established options, cRXT represents an option to consider for bulky disease in patients who are not eligible for neoadjuvant chemotherapy and surgery.

3.5. *Regional LN management*

3.5.1. *cN1-N2 disease (fig. 3)*

Radical inguinal lymph node dissection (rILND) remains the standard for patients with cN+ disease. Recent registry-based analyses continue to demonstrate inferior survival in patients managed outside guideline-directed pathways, reinforcing the central role of timely surgical clearance [52].

Considerable heterogeneity persists in operative rILND. Two contemporary surgical approaches are now recognised in cN1-2 disease: the classical radical template described by Daseler and fascial-sparing ILND (fsILND) [53]. Early experience with fsILND demonstrated 3-yr disease-free survival of 92.1% with a complication rate of 29.3% [54]. PCG2026 incorporates a large multicentre retrospective series of 421 patients (660 procedures), reporting 3 yr CSS of 86% for pN1 and 83% for pN2, with an overall complication rate of 36%, suggesting oncological equivalence to rILND with reduced morbidity [55]. There is no direct comparative trial between the two techniques and selection remains critical.

The exploration of minimally invasive ILND, including video-endoscopic inguinal lymphadenectomy and robot-assisted (RAVEIL) approaches in the pursuit of lower complications, is again explored. In addition to earlier reviews, a contemporary SR and meta-analysis of 16 comparative studies encompassing 1054 patients confirmed comparable LN yield and nodal positivity relative to open surgery, with similar lymphatic complications [56]. There were significantly fewer minor and major complications, reduced wound infection rates, and shorter length of stay, albeit with longer operative times, particularly with RAVEIL [56]. Oncological outcomes appeared equivalent, although the certainty of evidence was limited by retrospective designs, heterogeneity, and short follow-up [56]. Moreover, most included patients underwent prophylactic rather than therapeutic dissections, precluding routine use in cN1-2 disease. The United Kingdom (UK) multicentre VELRAD feasibility randomised trial is currently underway to assess recruitment, morbidity and patient-centred outcomes, with results intended to inform a definitive randomised comparison [57].

Postoperative morbidity following ILND remains substantial, occurring in 21–55% of patients [58]. Common complications include wound infection, skin necrosis, lymphoedema, lymphocele formation and seroma. A review of the literature as part of the PCG2026 highlighted the CALI consensus classification for ILND complications, developed through international Delphi methodology to align reporting across infections, lymphatic, vascular, musculoskeletal and cutaneous domains [59]. The framework is intended to improve comparability between studies and inform quality improvement initiatives.

Evidence regarding optimal timing of ILND in cN1-2 disease remains limited. Early nodal surgery appears beneficial in cN0 patients who later develop disease, while in cN+ cohorts data are conflicting, although delays beyond 3 mo may adversely influence outcomes [22,60,61].

Prophylactic pelvic lymph node dissection (pPLND) is recommended selectively, primarily as a staging procedure in patients with adverse inguinal pathology. Three or more involved inguinal LN and ENE remain the strongest predictors of occult pelvic disease [62–65]. Retrospective series suggest a possible survival advantage for pPLND in selected patients, although evidence remains insufficient to establish a clear therapeutic effect over surveillance or adjuvant RXT [66]. Morbidity data for PLND are limited and confounded by prior inguinal surgery [64].

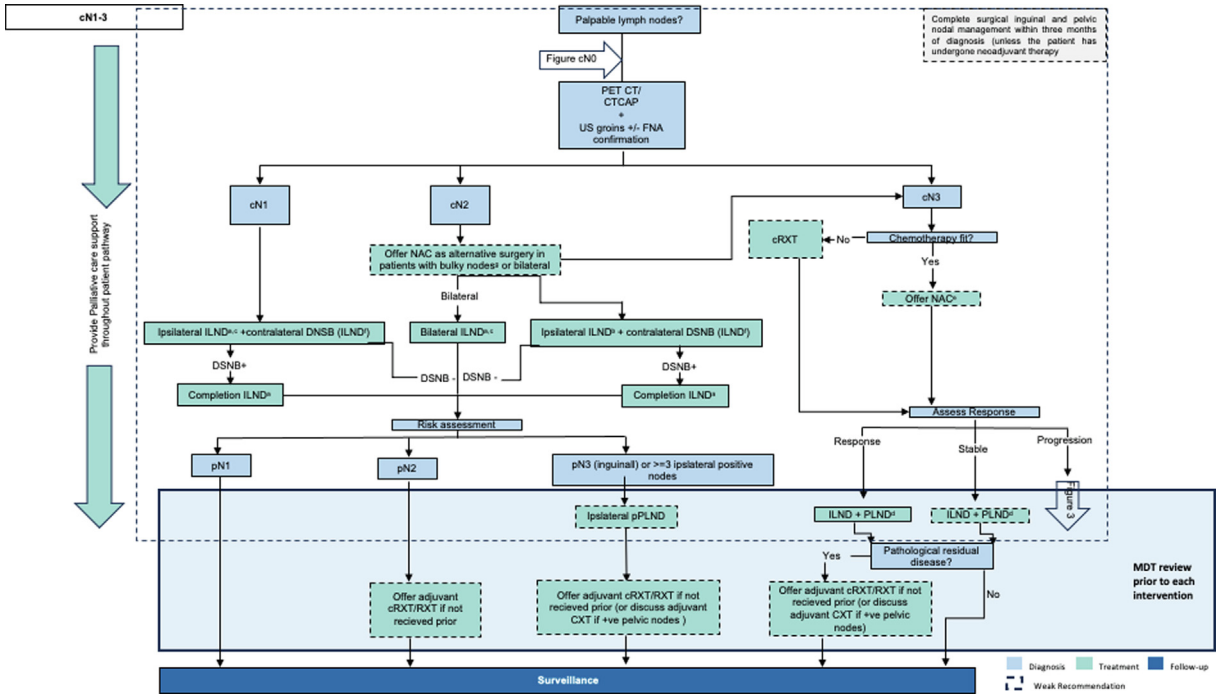

Fig. 3 – Regional lymph node management: clinically evident disease (cN1–cN3). CAP = chest, abdomen and pelvis; cRXT = chemoradiotherapy; CXT = chemotherapy; CT = computed tomography; DSNB = dynamic sentinel node biopsy; ENE = extranodal extension; FNA = fine-needle aspiration; (r) ILND = (radical) inguinal lymphadenectomy; LNs = lymph nodes; MDT = multidisciplinary team meeting; NAC = neoadjuvant chemotherapy; PET = positron emission tomography; (p)PLND = (prophylactic) pelvic lymph node dissection; RXT = radiotherapy; US = ultrasound. [a]Fascial sparing inguinal lymph node dissection or open radical ILND; sparing the saphenous if possible. [b]Ipsilateral open radical ILND; sparing the saphenous vein, if possible. [c]Offer minimal-invasive ILND to patients with cN1-2 disease only as part of a clinical trial. [d]Do not offer Video Endoscopic Inguinal Lymphadenectomy. [e]Cisplatin and taxane-based chemotherapy. [f]ILND is an option where DSNB is not feasible or preferred by the patient. [g]The term bulky is generally used to indicate a high suspicion of extranodal extension.

3.5.2. *cN3 disease and bulky cN2 (fig. 3)*

Surgery alone rarely cures patients with fixed inguinal masses or radiologically evident pelvic nodal disease. A surgery-first approach is associated with extensive resection wounds, high complication rates and high rates of failure to receive subsequent systemic therapy [67,68]. Consequently, the preferred initial strategy is to receive neoadjuvant chemotherapy (NAC) in those patients fit enough, in an attempt to downstage locoregional disease and manage micrometastatic systemic disease. Platinum-based doublets such as cisplatin/5-FU achieve response rates of 25–50% [69,70]. However, taxane-containing regimens have become central to contemporary practice. Paclitaxel, ifosfamide and cisplatin (TIP) produced a 50% ORR with some durable remissions after surgery in responders [71]. Docetaxel-based triplets (TPF) showed more modest efficacy with substantial toxicity [72,73]. SRs report radiological response rates of 53% (95% CI: 42–64) and pathological complete response (pCR) in ∼ 12.8% of patients who underwent surgery [58,74]. Recently, a phase II study combining toripalimab, nimotuzumab and triplet chemotherapy achieved pCR in 14 of 24 resected patients and 2-yr OS exceeding 70% in a Chinese population [75]. Although attribution of benefit to individual components is unclear, this represents the first prospective immunotherapy-containing regimen reported in this setting. Those patients who respond to NAC and proceed to consolidative surgery achieve 5-yr survival approaching 50–60% [58].

The role of RXT in advanced nodal disease continues to evolve. In the preoperative setting, a recent prospective cRXT study reported FDG-PET defined responses in 73% of patients, with one-third remaining progression free at 2 yr without surgery [50].

Adjuvant RXT following lymphadenectomy remains controversial but appears highly dose dependent. Regimens delivering ≥54 Gy for ENE and up to 57–60 Gy for residual disease were associated with improved local control and survival, whereas lower doses resulted in frequent in-field failures [76–78]. Multicentre data further suggest prolonged DSS with pelvic irradiation in node-positive disease [79]. Genomic modelling indicated that traditional doses may be inadequate for nodal clearance [80,81].

HPV status has emerged as a potential biomarker. In a large international cohort, HPV-positive tumours experienced greater benefit from adjuvant RXT [82]. Further studies have also demonstrated better outcomes with cRXT in patients with p16-positive disease [83]. In contrast, no difference in outcome was observed in locoregionally advanced disease between HPV-positive and HPV-negative cancers in a prospective study of cRXT by Ottenhof et al [50]

In settings where pelvic lymphadenectomy is not routine, adjuvant inguinal–pelvic cRXT has produced encouraging long-term outcomes. Maibom et al reported from Denmark on the use of inguinal–pelvic cRXT for 21 patients with a median follow-up of 74 mo. All patients had ENE and

two-thirds had bilateral groin disease, with a median OS of 84 mo and 57% 5-yr survival [84].

3.6. Metastatic disease (fig. 4)

Platinum-based chemotherapy remains the preferred first-line palliative approach in patients with distant metastatic disease. Doublets such as cisplatin/5FU or paclitaxel/carboplatin appear better tolerated than triplets, with response rates of 32% and median OS of 8 mo and 38.5–50% and median OS of 7–14 mo, respectively [71,72,85,86]. Effective second-line options remain limited, with median survival consistently under 6 mo.

Immune checkpoint inhibition represents an expanding area of interest. Prospective trials, including ORPHEUS and PRICLES, reported ORR of ~17% with occasional durable benefit [87,88]. Combination strategies appear more effective in response induction: cisplatin, 5-FU and pembrolizumab produced ORRs of nearly 40%. However, the median PFS of 5.5 mo and median OS of 9.6 mo in the HERCULES trial were similar to checkpoint inhibition monotherapy [89]. Durable disease control remains uncommon and biomarker-driven selection remains investigational.

Targeted approaches are still exploratory. Epidermal growth factor receptor inhibition has shown sporadic activity and dacomitinib achieved a 32% response rate in a phase II trial [90]. Tumour-agnostic strategies may be considered where available, although actionable alterations are rare [91].

RXT continues to play a role in palliation for ulcerative nodal disease or dermal lymphatic spread [92].

3.7. Follow-up, survivorship and centralisation of PC care

Follow-up remains oncologically justified, as early detection of recurrence may allow salvage therapy with likely higher curative potential and lower morbidity. Nodal recurrence remains largely confined to the first 2 to 3 yr after treatment, supporting early intensive surveillance with de-escalation thereafter [93–95]. A contemporary study demonstrated that 3-monthly groin US following negative DSNB detected early nodal relapse in 2% of intermediate- and high-risk patients, with most recurrences occurring in the first year. The authors therefore recommended limiting intensive US to surveillance of the groins to the first year and reducing follow-up thereafter [96]. After potentially curative treatment for inguinal nodal metastasis, CT imaging of the thorax, abdomen and pelvis is still recommended every 3 mo for the first 2 yr, then every 6 mo to complete 5 yr of follow-up.

PC profoundly affects QoL, and the updated guideline emphasises the persistent unmet physical, psychological and social needs requiring longitudinal multidisciplinary support [97,98]. Survivorship is acknowledged as a dynamic process in which late-emerging challenges are common, underscoring the importance of holistic services integrated into routine surveillance. Evidence on the effects of treatment remains heterogeneous, but SRs confirm that OSS

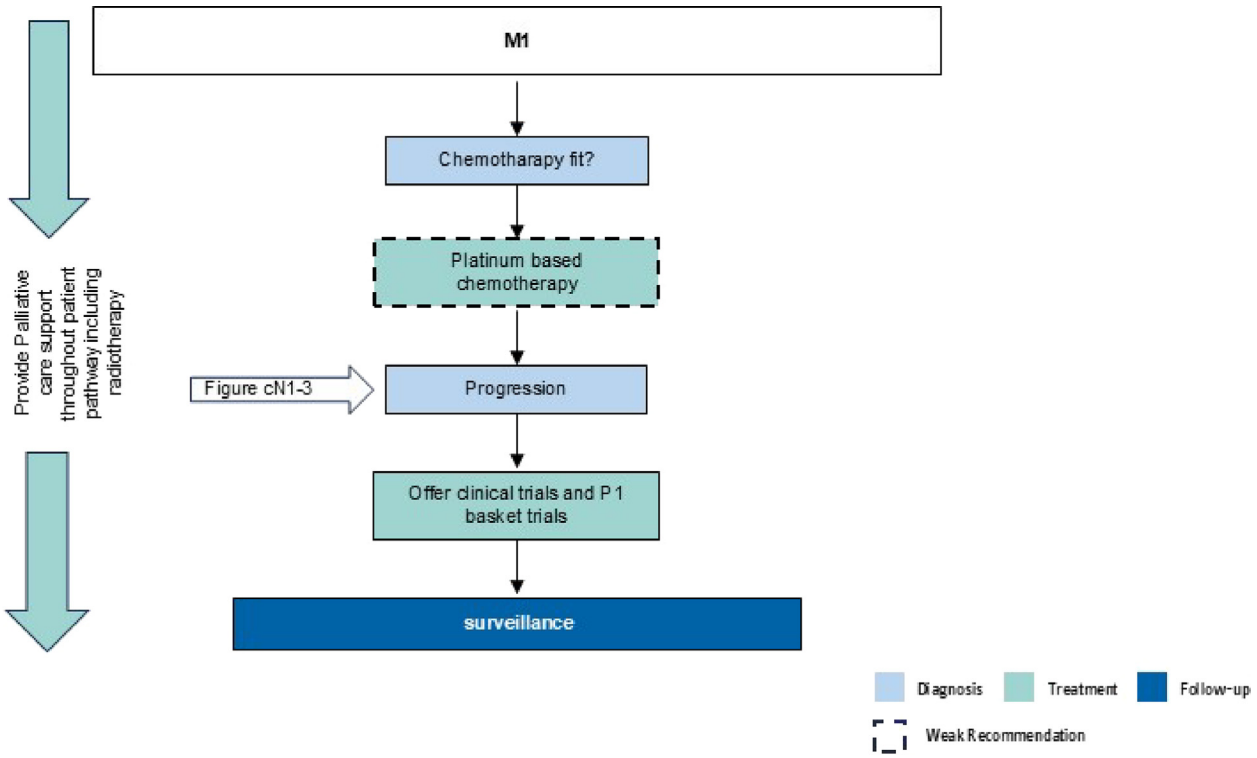

Fig. 4 – Systemic and palliative therapies for advanced disease. P1 = Phase 1 studies.

generally offers superior sexual outcomes compared with non-OSS, while ILND is strongly associated with functional and psychological impairment [31,99]. Early referral to specialist lymphoedema services, compression therapy, manual drainage, alongside selective reconstructive surgery should be considered to help with the effects of surgery. Electronic patient-reported outcome measures (ePROMS), may facilitate discussions between patients and health care professionals and encourage early engagement with appropriate services [100].

The evidence for centralised care models for PC continues to demonstrate benefits over locally delivered care. Population-based data demonstrate superior nodal staging, margin status, adherence to multimodal therapy and survival in high-volume centres [101,102]. Dutch registry data similarly showed superior outcomes at a national reference centre (86% vs 76%, with noncentralised treatment independently predicting worse survival (HR: 1.22, 95% CI: 1.05–1.39) [2].

4. Conclusions

The European Association of Urology and American Society of Clinical Oncology PCG2026 represents an evolution in the contemporary management of PC, reflecting the progressive understanding of the disease at a biological level, as well as consolidating the intentional emphasis on patient-centred care. There is greater weight on refined risk stratification through pathological and molecular markers, integration of US-guided nodal assessment, selective adoption of genomic testing, and clearer algorithms for regional nodal management and systemic therapy. In parallel, the expanded section on QoL, centralisation of care, and reduction of follow-up burden represents a deliberate shift towards holistic survivorship and equitable delivery of specialist services.

Author contributions: Arie Parnham had full access to all the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

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