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Pathology:

Guiding the Future of Medicine

Cone Biopsy and Cervical Cancer Resections

Best Practices in Grossing, Staging and Reporting

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Anchored on the current standards: CAP Uterine Cervix Resection protocol v5.1.1.0 (April 2023) and ICCR Carcinoma of the Cervix dataset, 5th edition v5.0 (October 2023), with ISGyP (2021), RCPath (2021), RCPA (2024) and J Clin Pathol (2024). Classification: WHO Female Genital Tumours, 5th ed. (2020), with a preview of the 6th ed. (online beta, 2026). Staging: FIGO 2018 (2019 corrigendum; retained in the FIGO 2025 update) · AJCC Version 9 · UICC TNM 9th ed. (in use from January 2026). Management: NCCN v1.2027 · ESGO/ESTRO/ESP 2023.



PART 1

Grossing

Cone/LEEP · trachelectomy · radical hysterectomy · lymph nodes and sentinel nodes



Every millimetre counts: size sets the operation

- **IA1** — conization with clear margins may be definitive treatment
- **IA2** — conization or simple hysterectomy may be sufficient in appropriately selected patients
- **IB1** — treatment depends on tumour size, LVSI, histological type, fertility preferences and nodal status: fertility-sparing or radical surgery
- **20 mm** — the IB1/IB2 boundary; sometimes used as the cut-off for radical trachelectomy: recurrence is higher above 20 mm, though some surgeons operate on larger tumours
- **40 mm** — separates IB2 from IB3 and IIA1 from IIA2
- **After radical hysterectomy for IB** — tumour size, depth in thirds of the cervical wall and LVI (Sedlis criteria), plus margin distance, guide adjuvant therapy
- **Clinical IB3 and above** (except IIA1) — usually chemotherapy, radiation or chemoradiation



Sources: ICCR 5th ed. 2023, Notes 1 and 6 · NCCN Cervical Cancer v1.2027

Stage I in two rulers: depth for IA, size for IB

Depth of invasion — tumours diagnosed only by microscopy



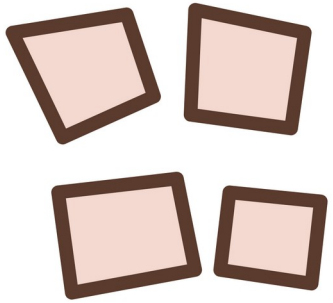
Greatest dimension — depth >5 mm or visible tumour



ICCR: a visible lesion with IA dimensions on histology may be staged IA, after multidisciplinary review.

Cone and LEEP: know your specimen

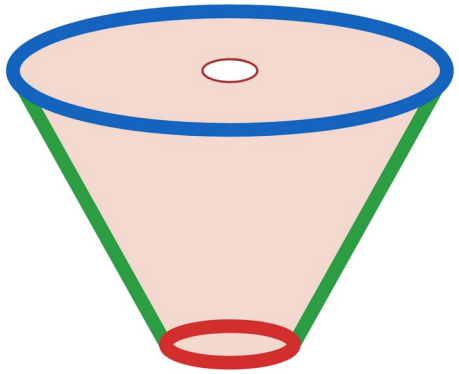
Fragmented LEEP



record number of pieces and size range

thermal artefact marks the true margin → ink not required

Intact cone / LEEP

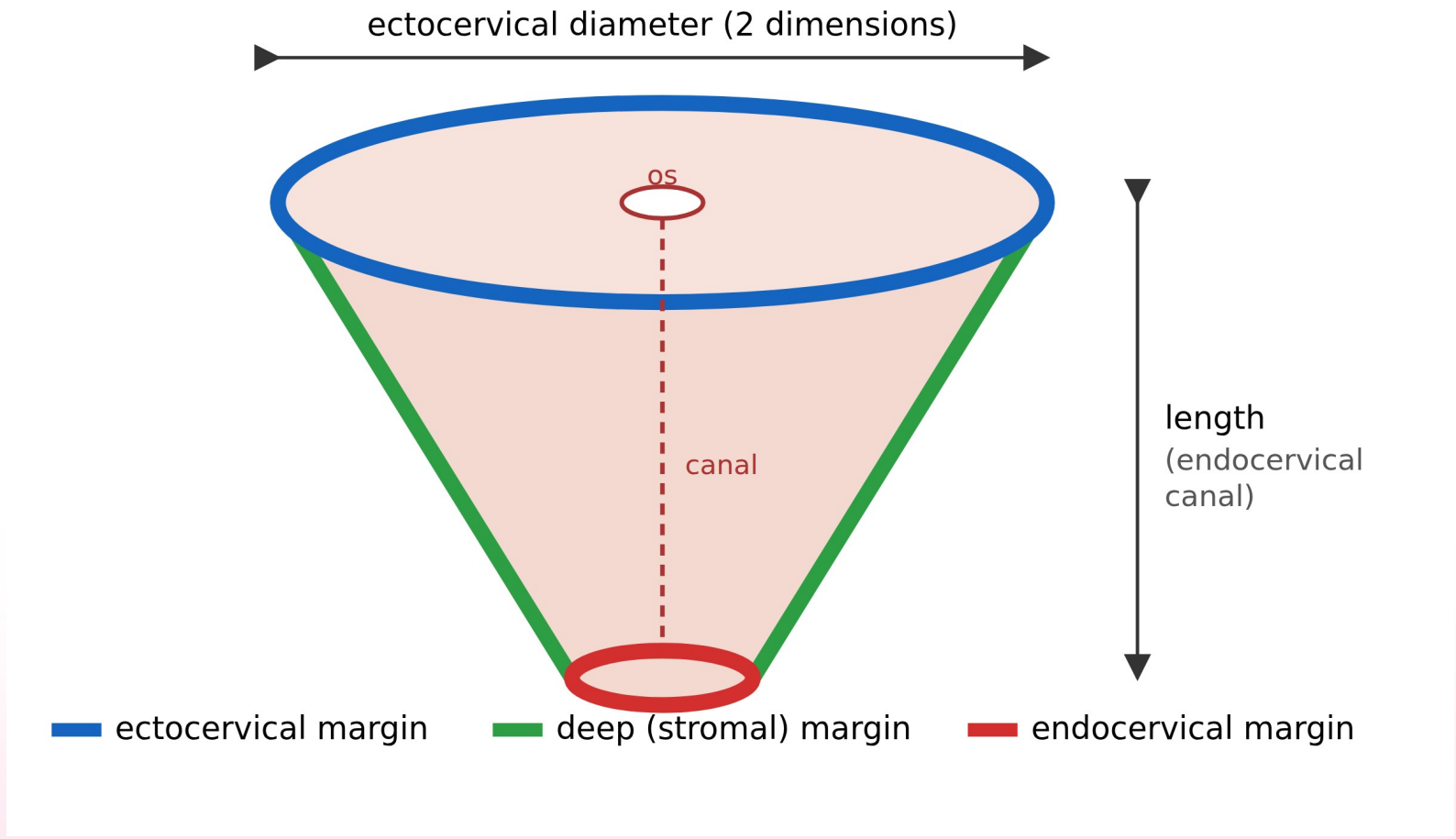


ink ectocervical (blue), endocervical (red) and deep (green) margins



Colours are illustrative; one ink colour is sufficient.

Intact cone: three margins and the ICCR core measurements



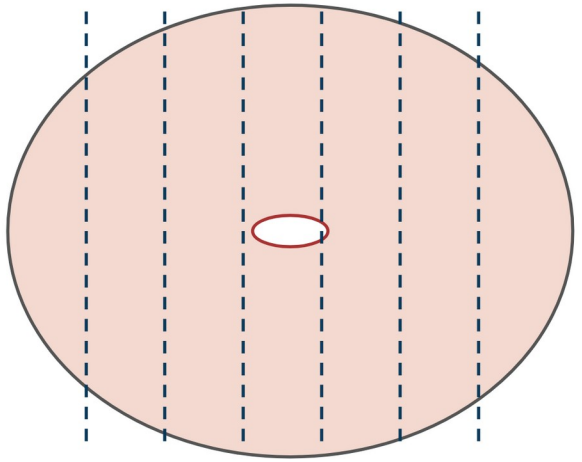
Cone and LEEP specimens

- **Fragmented LEEP:** record the number of pieces and size range; thermal artefact may help identify electrosurgical margins
- **Intact cone — landmarks:** ectocervix shiny, smooth, white; endocervix pink, finely granular, with mucus
- **Measure (ICCR core):** ectocervical diameter in 2 dimensions and length (= endocervical canal), in mm
- **Ink:** ectocervical, endocervical and deep margins — one colour is enough. ≠ Electrosurgical margins are cauterised, ink not needed; cold-knife cones must be inked
- **Orientation:** keep the surgeon's suture position through the block key. ≠ *No suture: do not assign clock positions; CAP: the pathologist's clock face is arbitrary*
- **Slice:** 2–3 mm; fresh → open at 12 o'clock and pin; fixed → parallel or radial slicing
- **Submit entirely**, including trimmings, in sequential cassettes; 1–2 slices per cassette



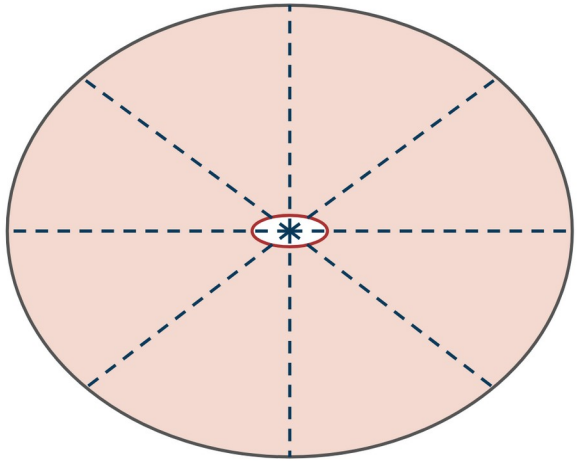
Fixed cone: parallel vs radial slicing

Parallel slicing



uniform slices, no trimming; end slices cut perpendicular

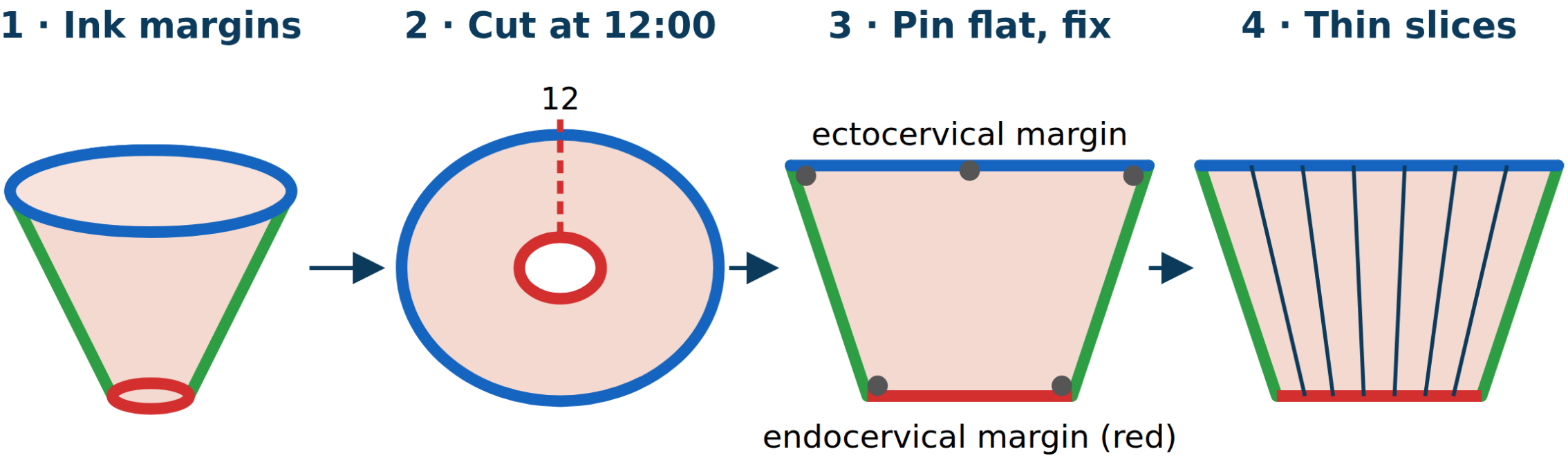
Radial slicing



wedges by clock hour; trim the thick end and submit trimmings

Fixed cones: radial slicing suits specimens with a clearly visible canal, parallel slicing those where the canal is less obvious. RCPath: serial 2–3 mm sagittal slicing from the 3 or 9 o'clock edge is the commonest method.

Fresh cone: open, pin, fix, slice



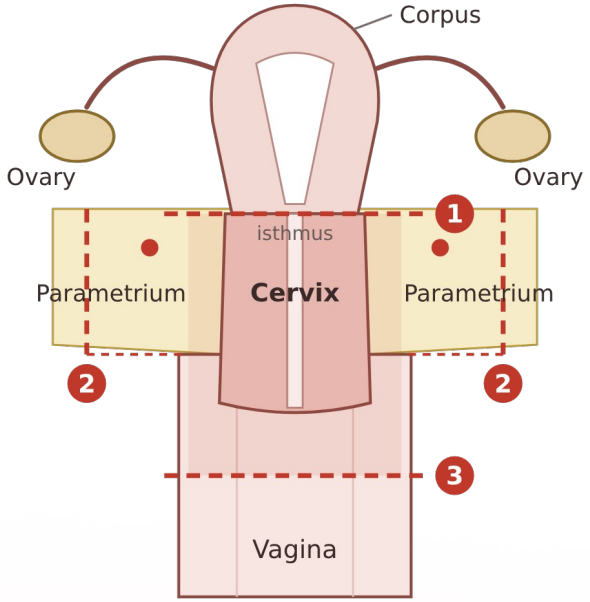
Trachelectomy

- **Radical trachelectomy** = cervix, upper vagina (cuff of 1–2 cm) and lower parametria; simple trachelectomy has no parametria
- **Ink:** endocervical, vaginal and parametrial margins + non-peritonealised anterior/posterior cervical surfaces (not true margins, but inked and reported)
- **Process:** remove parametria first; one cut at 12 o'clock away from tumour; pin (cuff stretched); fix overnight; 2–3 mm slices parallel to the canal
- **Sample:** no visible tumour → entire cervix; ≤2 cm → entire tumour; >2 cm → representative, with deepest invasion and closest margins; parametria entirely



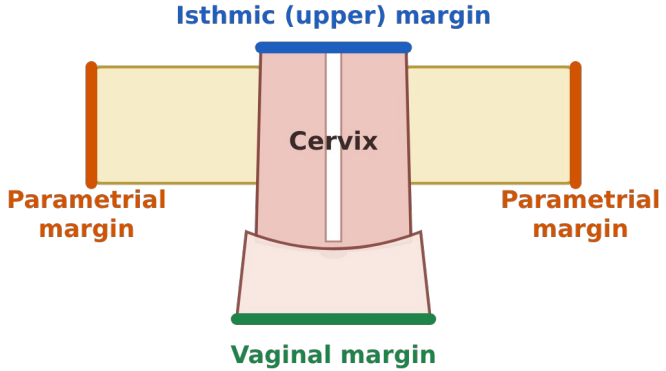
Trachelectomy: schematic of resection planes and margins

A Anatomy and resection planes



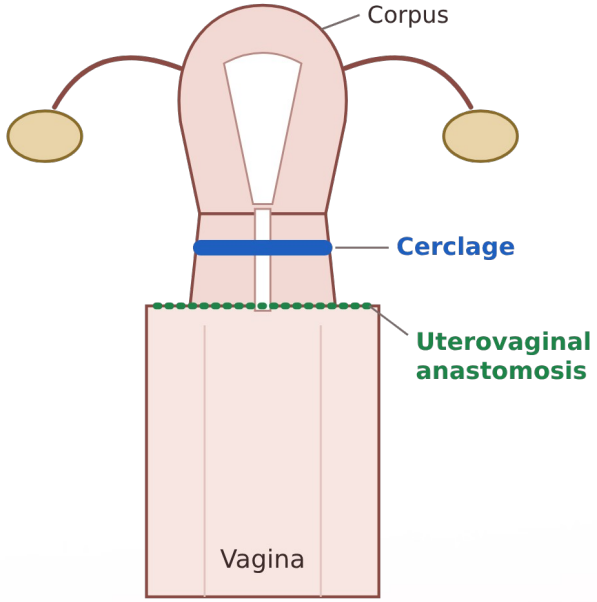
1. Upper cut: isthmus, below the internal os
2. Parametrial cuts, lateral to the cervix
3. Vaginal cut: cuff of upper vagina

B Specimen: margins to ink



Ink every margin before opening; the upper margin decides whether the uterus can be kept

C After: uterine corpus kept



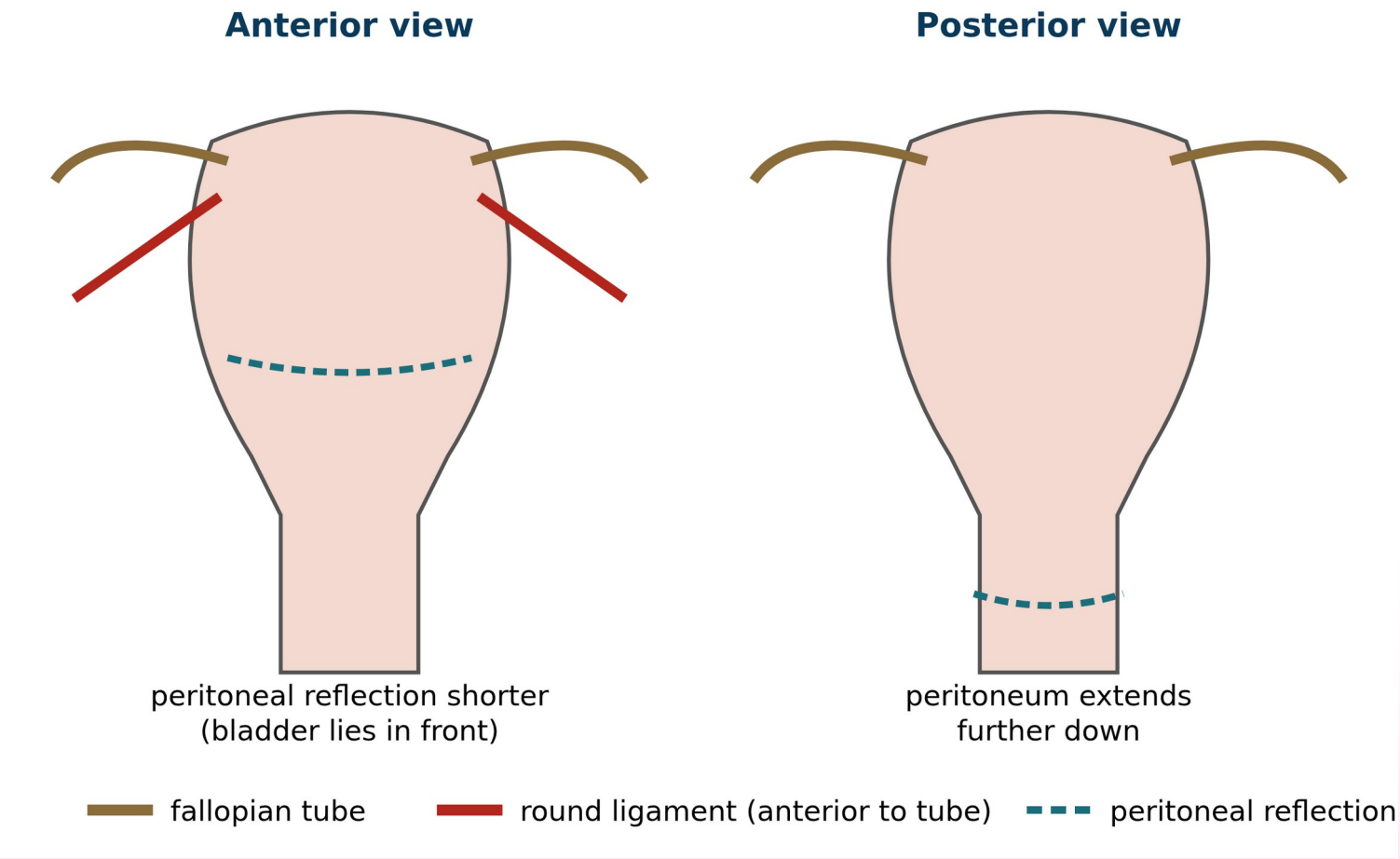
Cervix and parametria removed; corpus joined to the vagina

Radical and simple hysterectomy

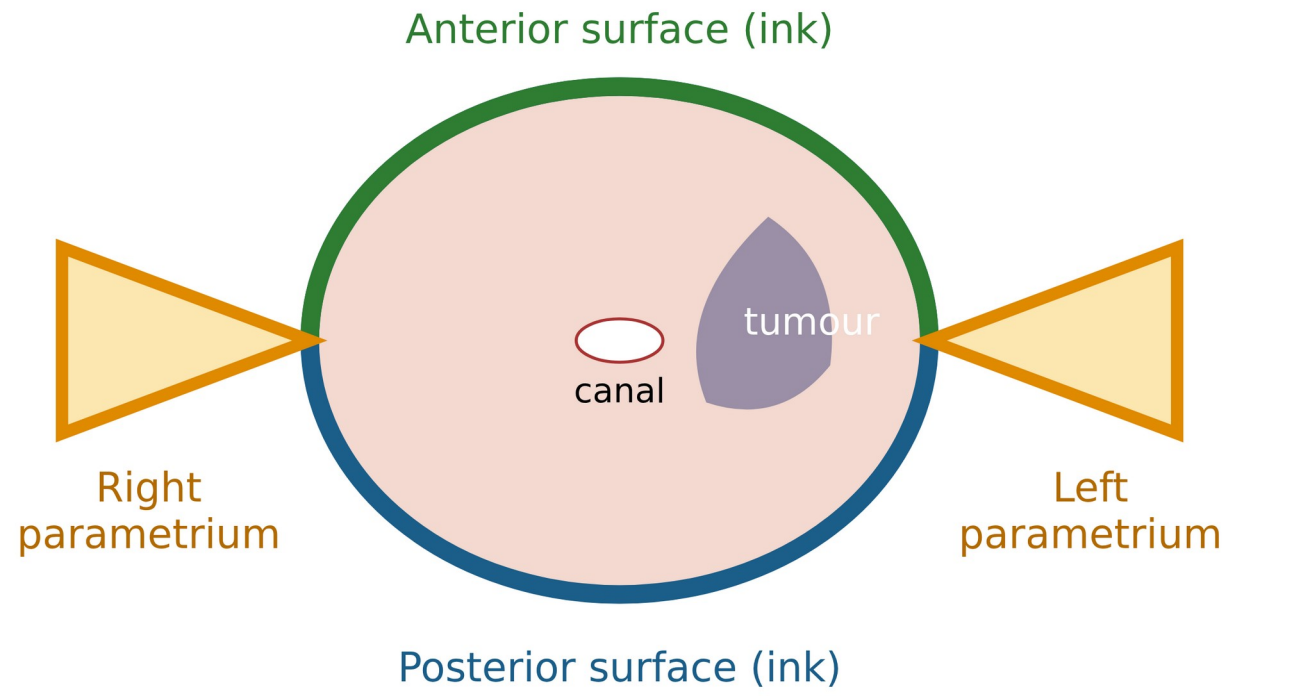
- **Orient:** anterior peritoneal reflection is shorter; round ligaments lie anterior to the tubes
- **Ink** vaginal and parametrial margins + anterior/posterior non-peritonealised cervical surfaces
- **Parametria:** not suspicious → remove at the uterine wall, slice 2–3 mm, submit entirely by side; suspicious → leave attached, slice in continuity
- **Open at once:** amputate the cervix and treat it as a trachelectomy, or bivalve and slice the cervix radially; stretch and pin the cuff; fix overnight
- **Sample:** no visible tumour → entire cervix; ≤2 cm → entire tumour; larger → at least 1 block per cm, to include deepest invasion and nearest margins; IA or small IB → entire cervix
- **Also:** full-thickness lower segment and corpus; tubes by SEE-FIM with entire fimbriae
- **Simple hysterectomy:** *paracervical tissue is a "parametrial shave", not a formal parametrectomy*



Orienting the hysterectomy

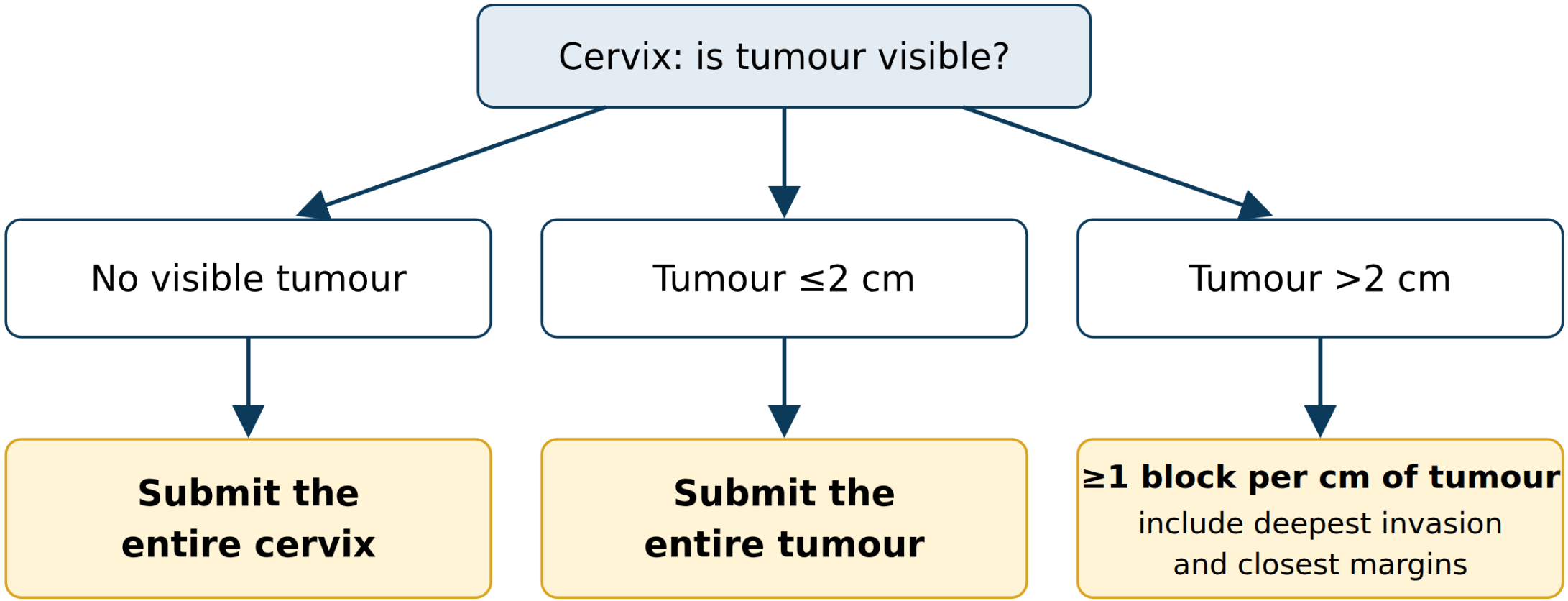


Transverse view: the radial margins of the cervix



Lateral radial margin = parametrium; anterior and posterior radial margins = cervical stroma.

How many blocks? Sampling the cervix



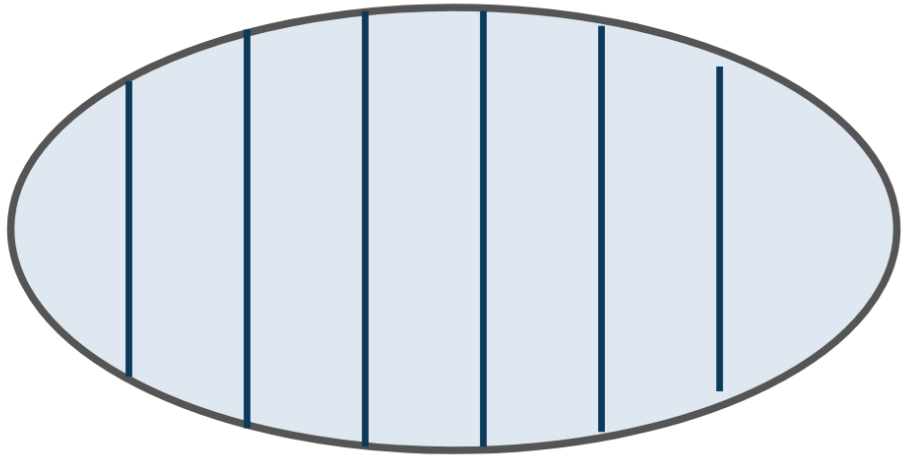
Lymph nodes and sentinel nodes

- **Slice** each node perpendicular to the long axis at ≤2 mm; submit all slices unless there is gross metastasis; trim fat, do not strip it (extranodal extension)
- RCPath: non-sentinel nodes <4 mm bisected; larger nodes sliced at 2 mm; one block is enough for a grossly involved node
- Record the number of nodes in each cassette, for an accurate total count
- **Sentinel node ultrastaging** — required, but protocols differ:
  - CAP example: each H&E-negative block → 2 sections from each of 2 levels 50 µm apart (H&E + pankeratin)
  - RCPath/BAGP: 4 sections every 200 µm until the block is exhausted (H&E + cytokeratin)
  - ISGyP: levels and keratin decided locally; up to 6.4% of metastases missed without ultrastaging
- NCCN: ultrastage sentinel nodes; non-sentinel nodes do not require ultrastaging; there is no universally accepted standard protocol



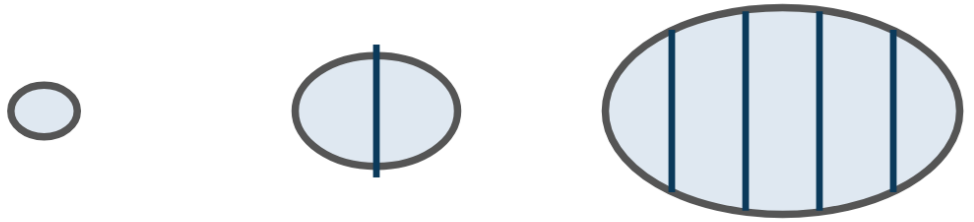
Slicing lymph nodes and sentinel nodes

Slice ≤2 mm across long axis



submit all slices unless grossly involved
trim fat, do not strip it (extranodal ext.)
record nodes per cassette

RCPath sentinel nodes, by size



≤2 mm
embed whole

2–4 mm
bisect; both halves

≥4 mm
bisect, or 2 mm slices across the long axis

PART 2

Staging I: measure it right

Basics first — depth, width and the third dimension — then: tumour in several specimens · multifocal invasion · barrel-shaped cervix · exophytic tumour

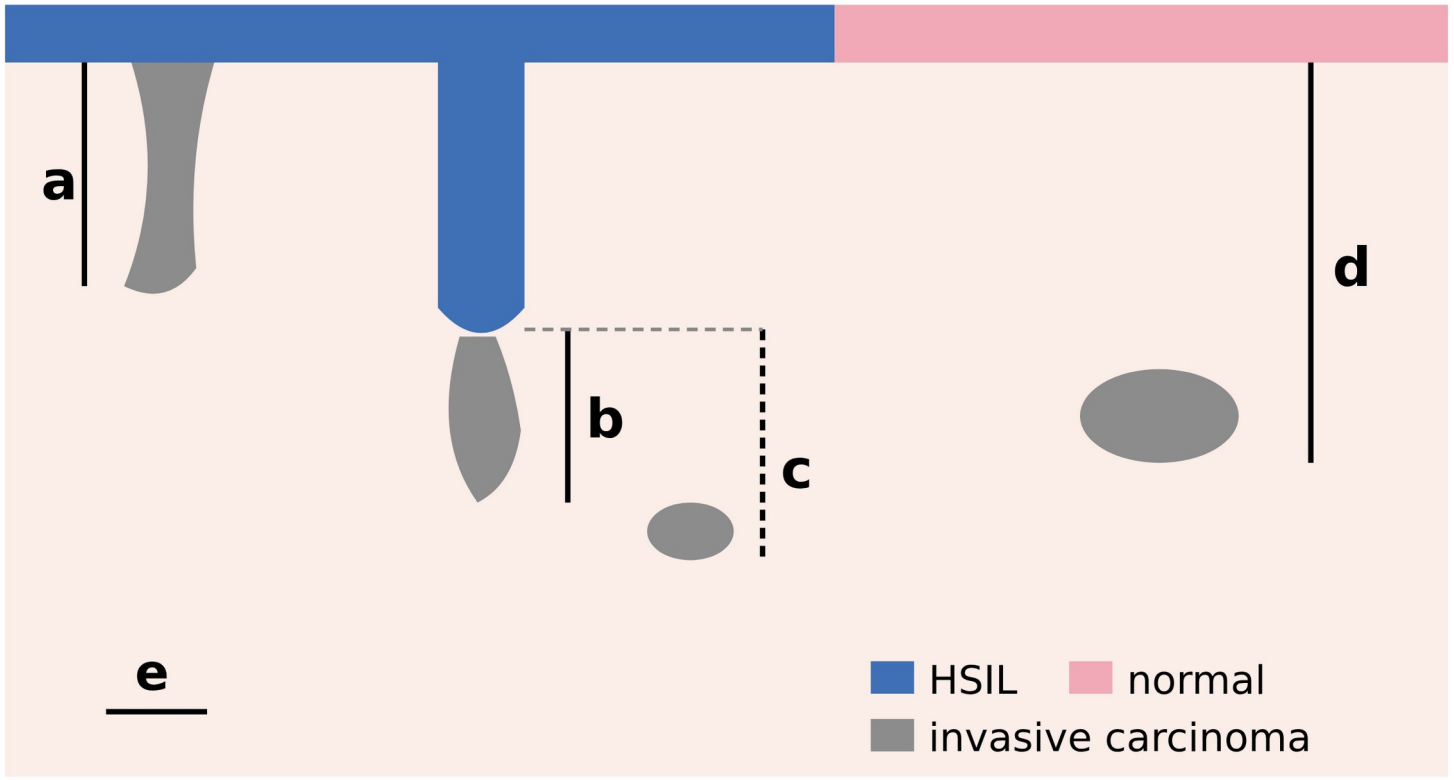


Depth of invasion and width: where to put the ruler

- **One final set** of measurements from gross–microscopic correlation; do not give separate gross and microscopic sets
- **Depth (a, b):** from the base of the epithelium (surface or crypt) the carcinoma arises from, to the deepest point
- **Detached focus (c):** from the base of the nearest dysplastic crypt or surface epithelium
- **No origin after levels (d):** from the base of the nearest surface epithelium, dysplastic or not
- **Width (e):** from the first to the last edge of invasion in the slice, including short non-invasive gaps
- Deepest point at the deep margin → comment on possible underestimation; write "at least"
- **Thickness instead of depth**, with the reason: AIS vs invasive ACA (overestimates), ulcerated tumour (underestimates), exophytic tumour

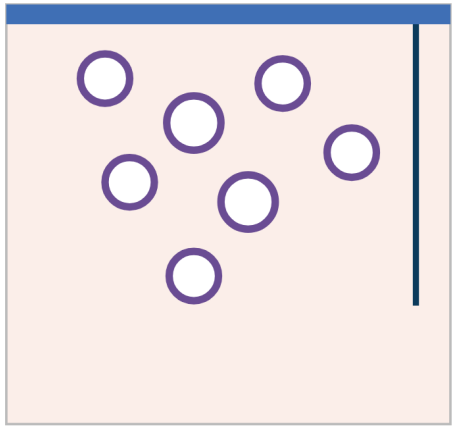


Depth of invasion and width: a–e



When thickness must replace depth of invasion

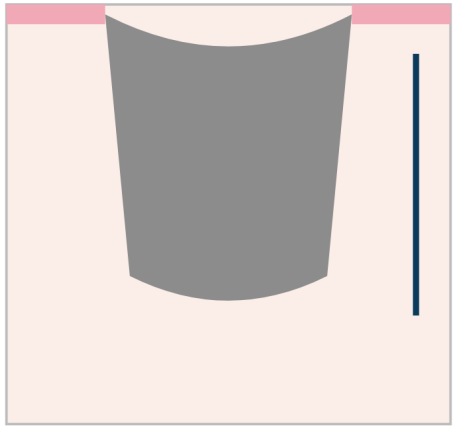
AIS vs invasive ACA



junction of AIS and invasion cannot be established

may OVERestimate depth

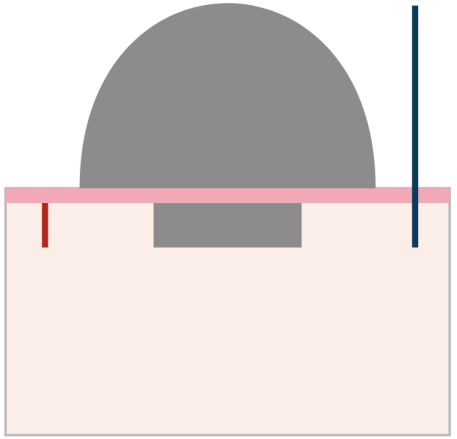
Ulcerated tumour



no obvious origin from overlying epithelium

may UNDERestimate depth

Exophytic tumour



projects above the surface, little or no stromal invasion

report both measurements

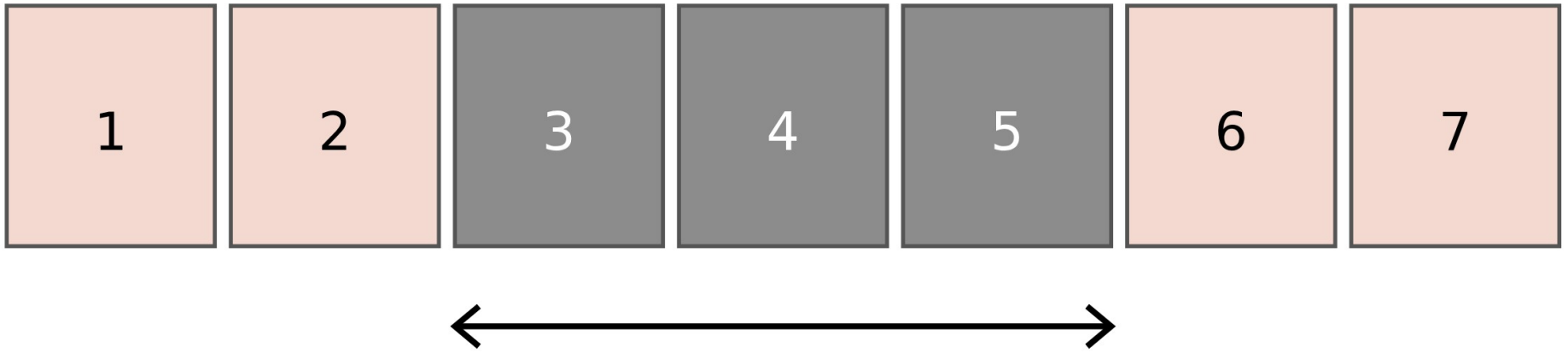
thickness depth of invasion

Horizontal extent and the third dimension

- FIGO 2018 no longer uses horizontal extent to stage microscopic tumours; ICCR still asks for it, for data collection and tumour volume
- CAP: horizontal extent is optional — give the size on a single block, or the number of blocks and whether it is ≤7 or >7 mm
- **Third dimension** = block thickness (usually 2.5–3 mm, estimated from the specimen dimensions and number of blocks) × number of sequential blocks involved
- CAP: wedge-shaped slices range from <1 to >3 mm; estimates of 2.5–3 mm per block may overestimate
- Volume <420 mm^3 was associated with no nodal metastasis in older studies; few centres use volume today
- ISGyP: at least two measurements — depth of invasion and largest tumour dimension



Third dimension from sequential blocks



n sequential blocks × block thickness

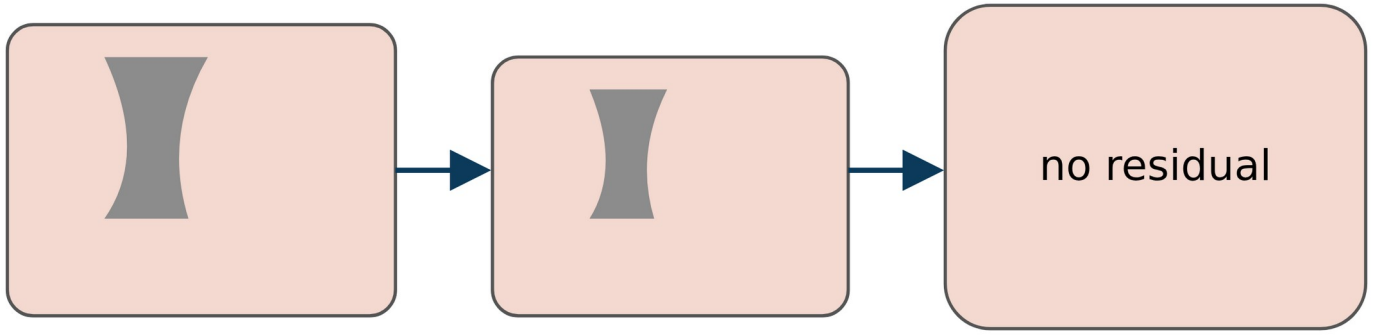
(usually 2.5–3 mm each)

Tumour in several specimens: cone → re-cone → hysterectomy

- Final dimensions must take prior loop/cone specimens into account
- **Depth:** the maximum depth in any one specimen — depths are never added
- **Horizontal extent:** ICCR recommends adding the maximum horizontal measurements, accepting possible overestimation. ISGyP: either add them (likely overestimates) or report only the current size with a comment on prior specimens; the tumour board decides the final stage
- The same rules apply to a loop received in more than one piece, if multifocal tumour is excluded
- **Positive loop margin:** do not stage IB on the positive margin alone; stage on the later specimen, or give "at least stage X"
- **After neoadjuvant treatment:** preserve the pre-treatment clinical stage and tumour measurements; separately document residual tumour size, treatment response, margins and nodal findings in the post-treatment specimen; apply the appropriate yTNM classification



Cone → re-cone → hysterectomy: the rules



Final depth = the larger of a and b

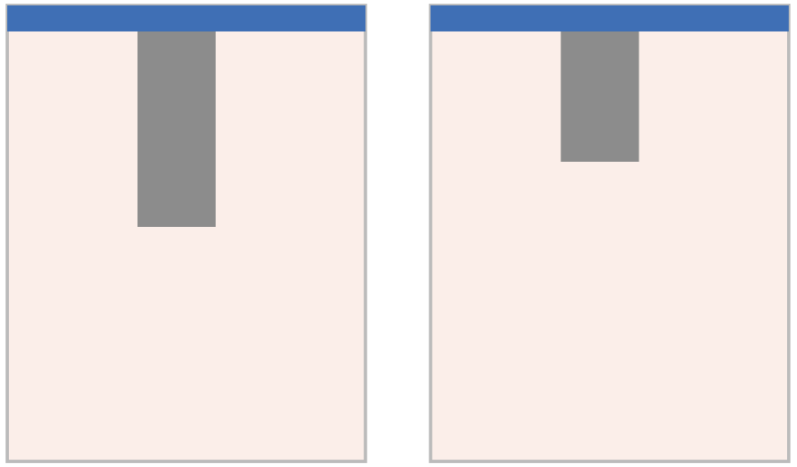
Final width = x + y (ICCR; ISGyP option 1)

ISGyP option 2: current size + comment on prior specimens

Never: depth = a + b

Depth across specimens: wrong vs right

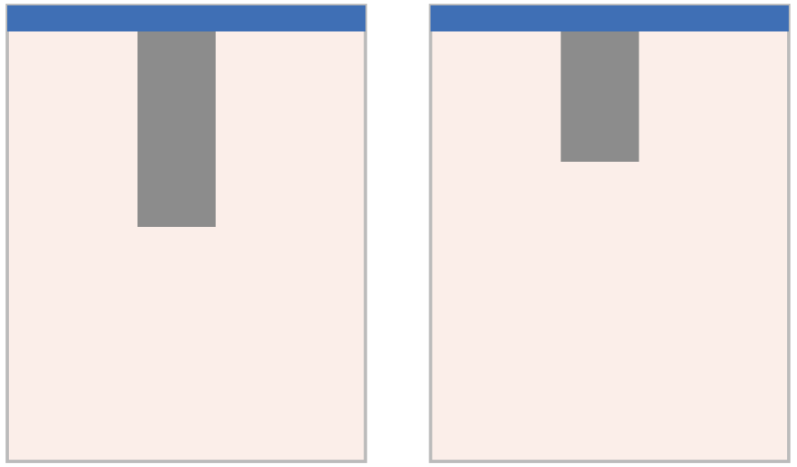
✗ Adding depths



specimen 1: a specimen 2: b

depth = a + b

✓ Deepest in any one specimen



specimen 1: a specimen 2: b

depth = max (a, b)

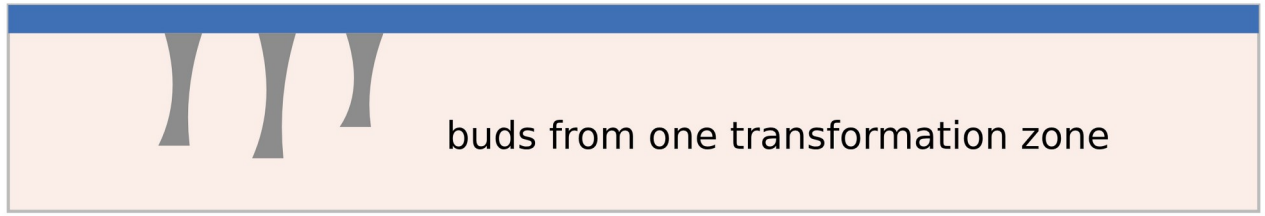
Several invasive foci: one tumour or multifocal?

- **Multifocal** if invasive foci are:
  - separated by blocks of uninvolved cervical tissue (levels must confirm it)
  - on separate cervical lips, not involving the curvature of the canal
  - far apart in the same section — ≥2 mm in two studies (an arbitrary distance)
- **Not multifocal:** tongues or buds arising at several points of one transformation zone that will coalesce — one tumour, measured in 3 dimensions
- Measure each focus separately in 3 dimensions; stage on the largest; state "multifocal" and how it was measured
- 12–25% of FIGO IA1 squamous carcinomas are multifocal
- CAP (LAST): foci separated by an uninvolved block, >2.0 mm apart, or on different lips; stage by the largest focus
- Separate datasets are needed only for separate primary tumours (lymph nodes reported once)

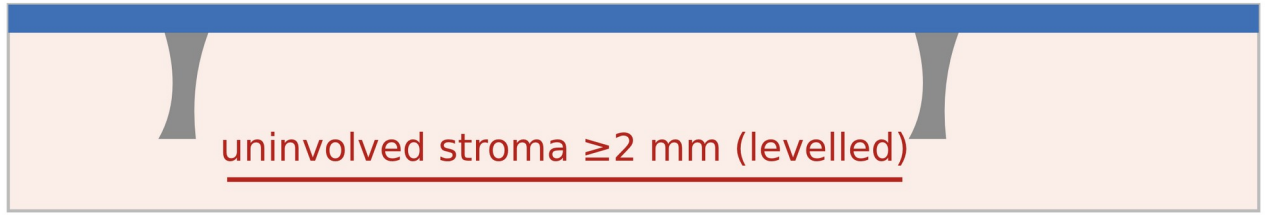


One tumour or multifocal? Three patterns

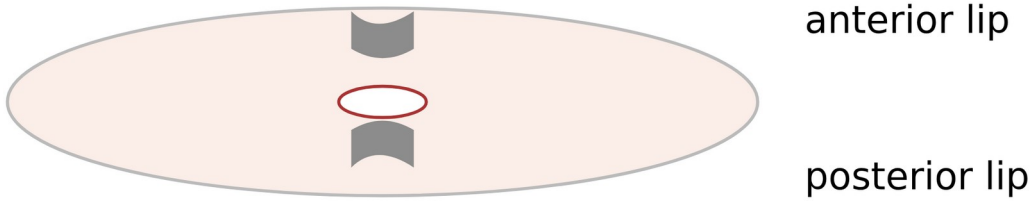
A · One tumour



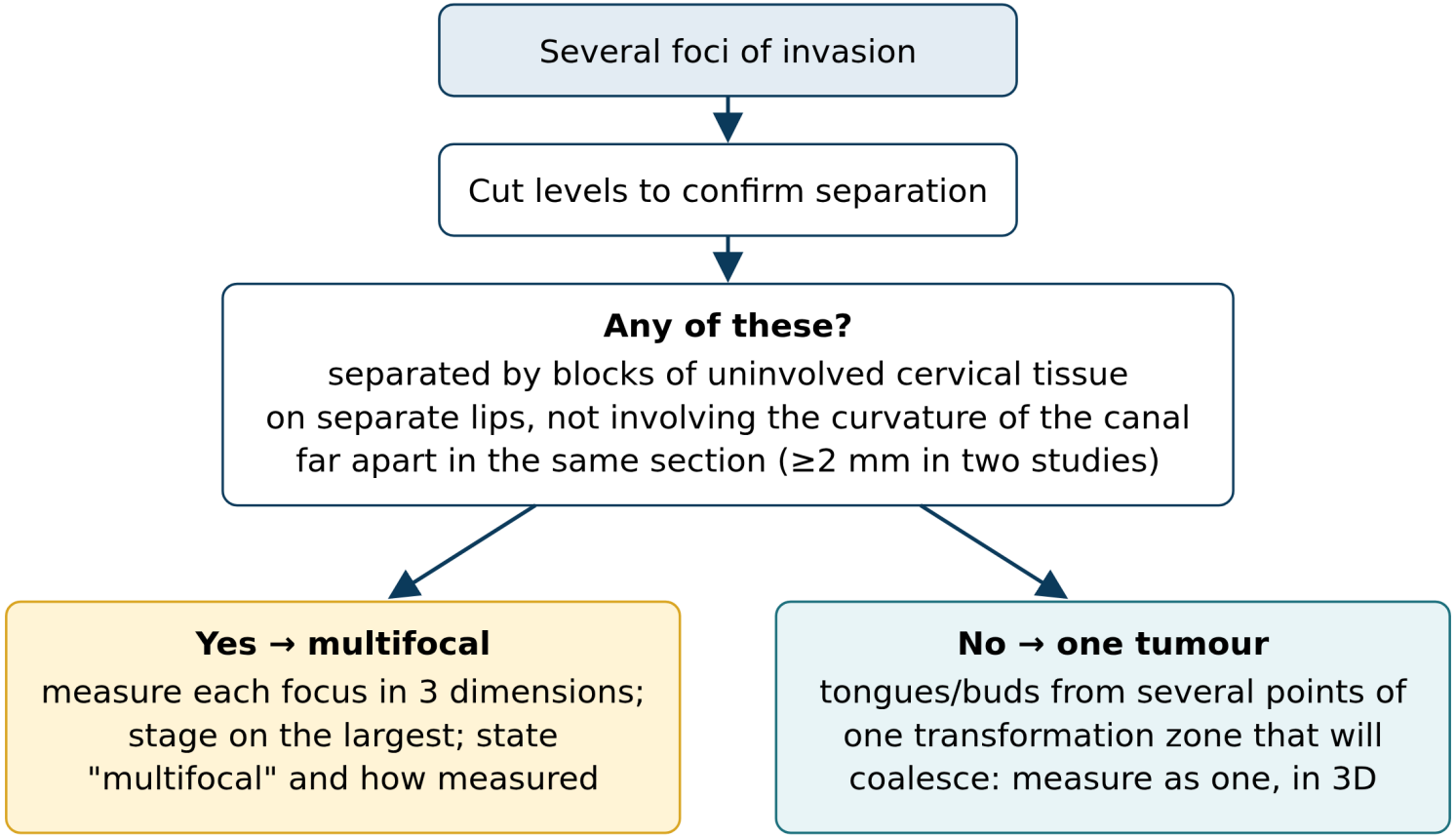
B · Multifocal (same section)



C · Multifocal (separate lips)



Multifocal invasion: a decision path



The barrel-shaped cervix: how big is a tumour with no edge?

- A circumferential tumour opened and submitted in sequential cassettes: **adding the slices overestimates** the size — measure grossly where possible
- **All quadrants + full thickness** of the cervical wall, no measurable mass → the **cervical diameter** is a reasonable approximation of tumour size
- **Not full thickness** (or not all quadrants) → report the deepest invasion and the largest extent on any single slide, plus the number of blocks involved; ISGyP adds the number of quadrants and a comment that no measurable tumour is present
- Radiology may occasionally give the most accurate size and should be used in final staging when appropriate
- Bulky (>40 mm) barrel-shaped tumours had worse overall and disease-free survival than exophytic tumours >40 mm in one study



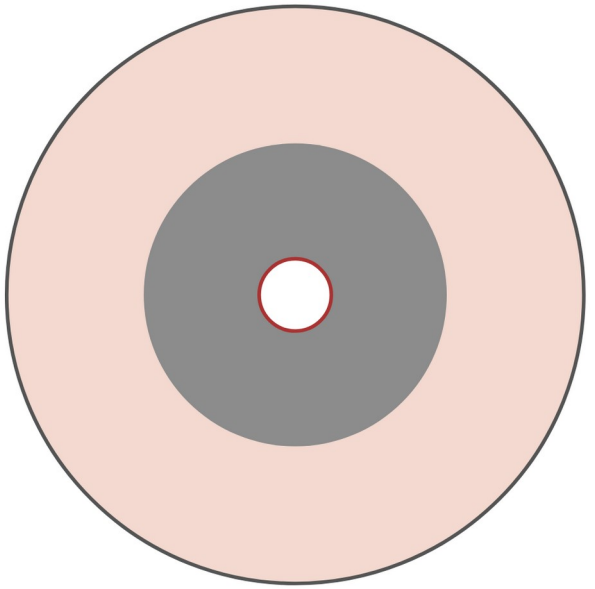
The barrel-shaped cervix: two situations

A · All quadrants, full thickness



size ≈ cervical diameter

B · All quadrants, inner wall only



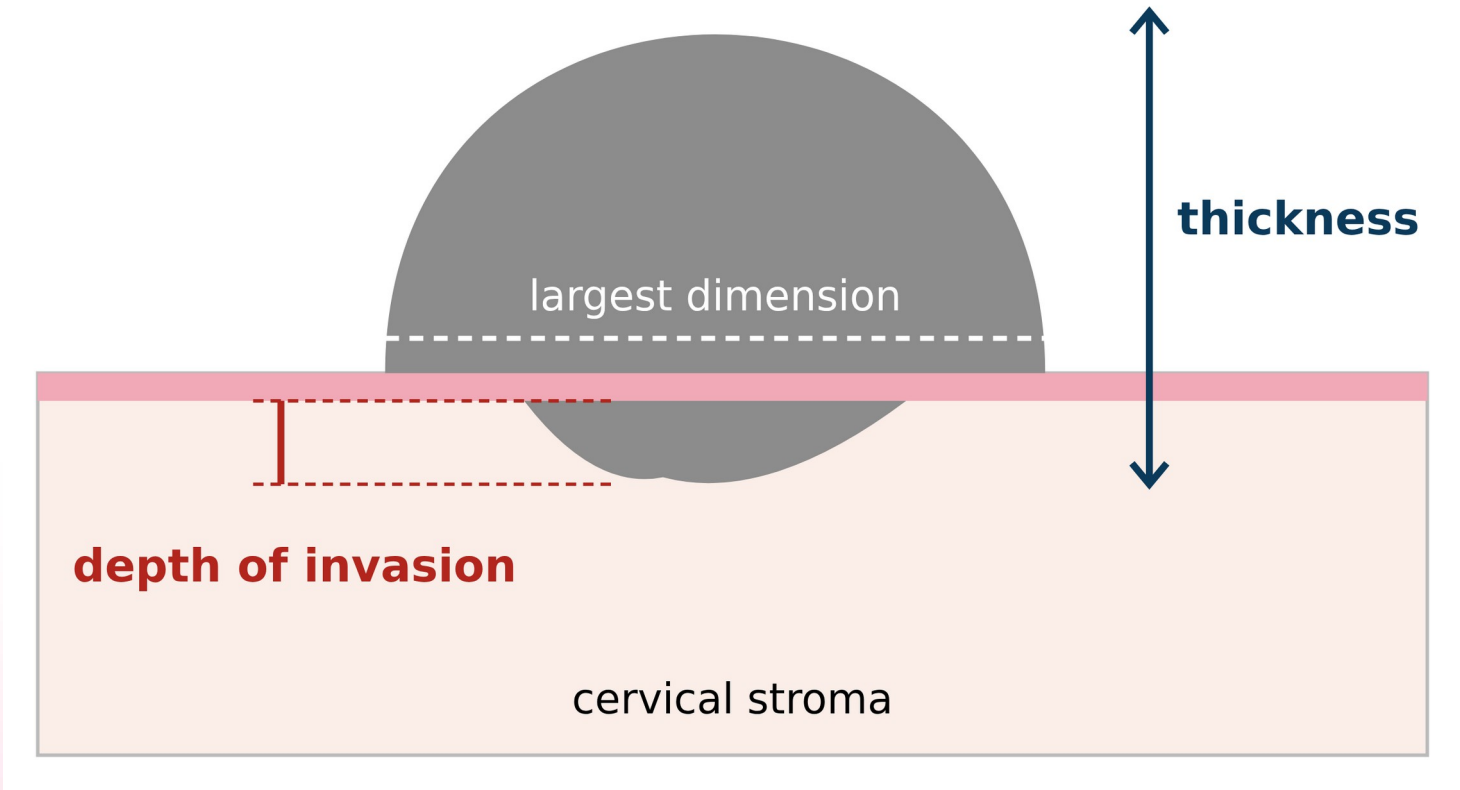
depth + largest single-slide extent + blocks/quadrants

Exophytic and polypoid tumours: two different measurements

- These tumours may project above the surface with little or no stromal invasion — they are **not** in-situ lesions
- **Thickness** = top of the tumour to the deepest point; **depth of invasion** = extent below the level of the epithelial origin
- FIGO's IA depth criteria apply only to tumours diagnosed by microscopy, not to grossly visible tumours
- What to report — the sources differ:
  - **CAP:** measure thickness; do not provide depth below the epithelial origin
  - **ICCR:** report both tumour thickness and depth of stromal invasion, and explain how each was derived
  - **ISGyP:** give both plus wall thickness; stromal infiltration ≤5 mm but thickness >5 mm → stage IB

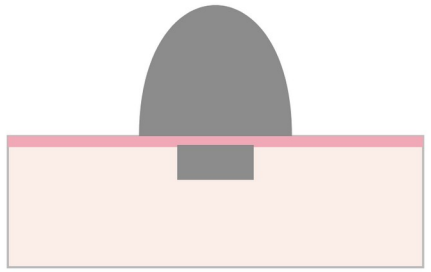


Exophytic tumour: thickness vs depth of invasion

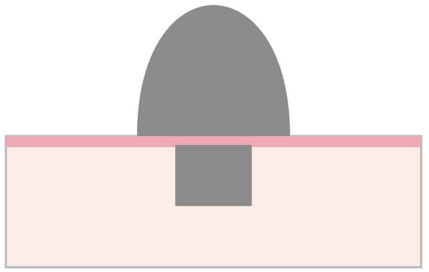


Your turn: what stage are these exophytic tumours?

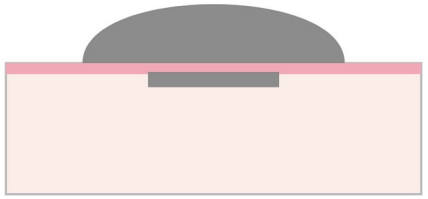
Polypoid / exophytic tumours ≤20 mm in largest dimension (drawings not to scale)



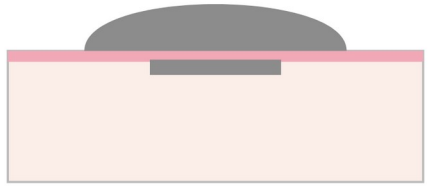
thickness 15 · invasion 4 mm



thickness 15 · invasion 8 mm



thickness 4 · invasion 1 mm

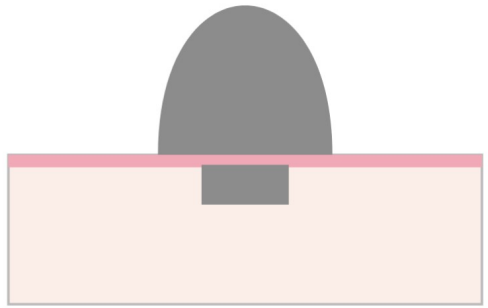


thickness 2.5 · invasion 1 mm

>20 mm and ≤40 mm
regardless of thickness/depth

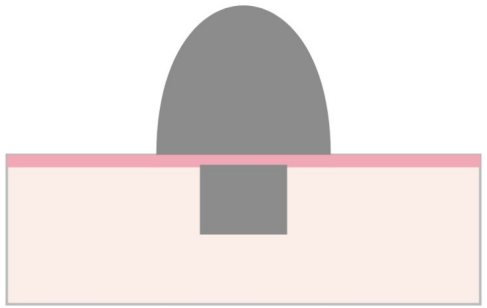
>40 mm
regardless of thickness/depth

Polypoid / exophytic tumours ≤20 mm in largest dimension (drawings not to scale)



thickness 15 · invasion 4 mm

IB1

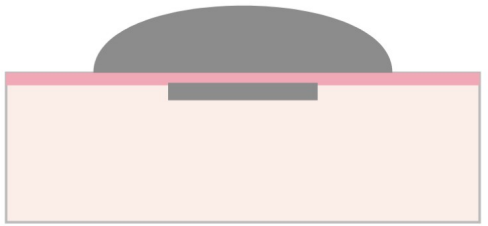


thickness 15 · invasion 8 mm

IB1

>20 mm and ≤40 mm
regardless of thickness/depth

IB2

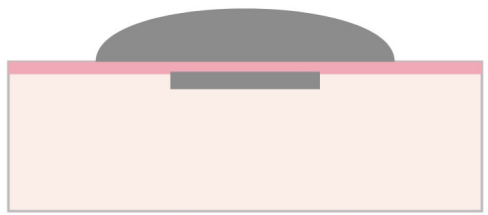


thickness 4 · invasion 1 mm

IA2

>40 mm
regardless of thickness/depth

IB3



thickness 2.5 · invasion 1 mm

IA1

ICCR 5th edition worked examples.

Under CAP, any grossly visible lesion is at least stage IB.

PART 3

Staging II: FIGO and TNM

FIGO 2018 (2019 corrigendum; retained in the FIGO 2025 update) · UICC TNM 9th ed. · AJCC Version 9 · lymph nodes and distant spread



FIGO 2018 and TNM: the millimetre cut-offs

FIGO	Definition	TNM
IA1 / IA2	Microscopic only; depth ≤3 mm / >3 to ≤5 mm	T1a1 / T1a2
IB1 / IB2 / IB3	Depth >5 mm and ≤2 cm / >2 to ≤4 cm / >4 cm	T1b1 / T1b2 / T1b3
IIA1 / IIA2	Upper two-thirds of vagina, no parametrium; ≤4 / >4 cm	T2a1 / T2a2
IIB	Parametrium, not to pelvic wall	T2b
IIIA / IIIB	Lower third of vagina / pelvic wall, hydronephrosis or non-functioning kidney	T3a / T3b
IIIC1 / IIIC2	Pelvic / para-aortic nodes, including micrometastases (r or p)	N1 / N2
IVA / IVB	Bladder or rectal mucosa (biopsy-proven); bullous oedema of the bladder mucosa alone is not enough / distant organs	T4 / M1

- Extension to the corpus is disregarded
- LVSI does not change the stage; lateral extent is no longer considered
- Imaging and pathology may be used in all stages; pathology supersedes both
- Record r (imaging) or p (pathology) for IIIC and the method used; when in doubt, assign the lower stage
- **Bullous oedema** of the bladder mucosa, as such, does not allow stage IV — biopsy-proven mucosal involvement is required

TNM column: Cervix Uteri TNM 2021 as reproduced in ICCR; CAP uses AJCC Version 9 (pN1/pN2 with mi). UICC TNM 9th edition (2025; applies from January 2026) keeps these T categories and M1 for uterine serosa/adnexa.



Sources: CAP 2023 · ICCR 5th ed., Note 18 (FIGO 2018 with 2019 corrigendum; UICC TNM 2021)

Lymph nodes, adnexa and distant spread

Deposit	Size	TNM	FIGO
Macrometastasis	>2 mm	pN1 / pN2	IIIC1 / IIIC2
Micrometastasis	>0.2 to ≤2 mm	pN1(mi) / pN2(mi)	IIIC (corrigendum)
Isolated tumour cells	≤0.2 mm or ≤200 cells	pN0(i+)	No change; record

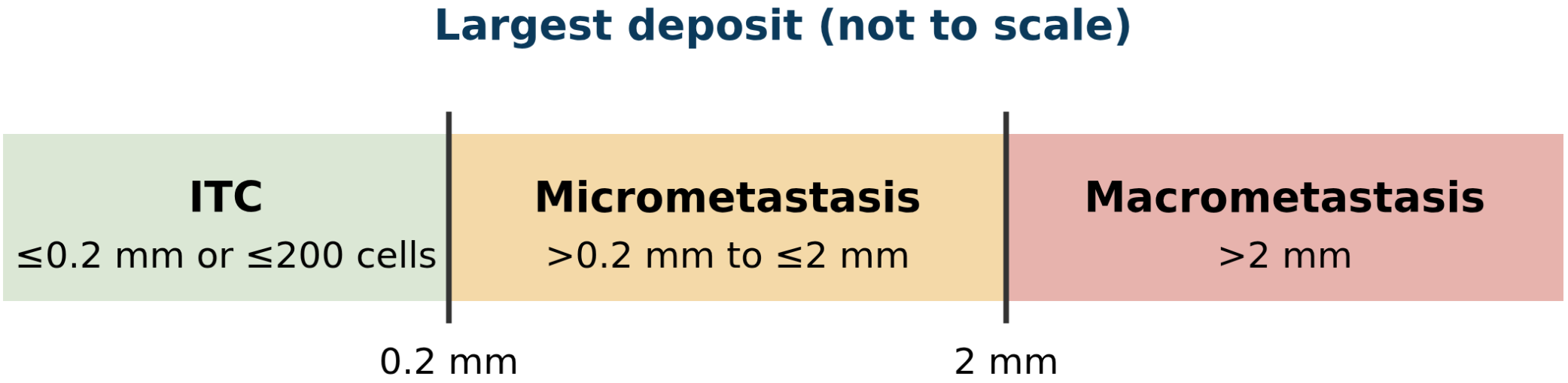
- Report per site and side: number of nodes, and the number with ITCs, micro- and macrometastasis (ICCR core)
- Measure ITCs as contiguous cells only; do not add scattered clusters
- ≥6 pelvic nodes expected, but fewer negative nodes are still pN0

- **Regional:** paracervical, parametrial, obturator, iliac, presacral, lateral sacral, para-aortic; **inguinal = distant metastasis**
- Parametrial node → IIIC1
- Anterior/posterior paracervical extension (bladder or bowel wall without mucosa) → IIB
- ≠ **Uterine serosa and adnexa:** FIGO — not M1, does not upstage; UICC TNM (2021 update and 9th ed.) and AJCC Version 9 — M1
- Suffixes: (sn) sentinel only; (f) FNA/core biopsy



Sources: CAP 2023 · ICCR 5th ed., Notes 15 and 18 · ISGyP staging 2021

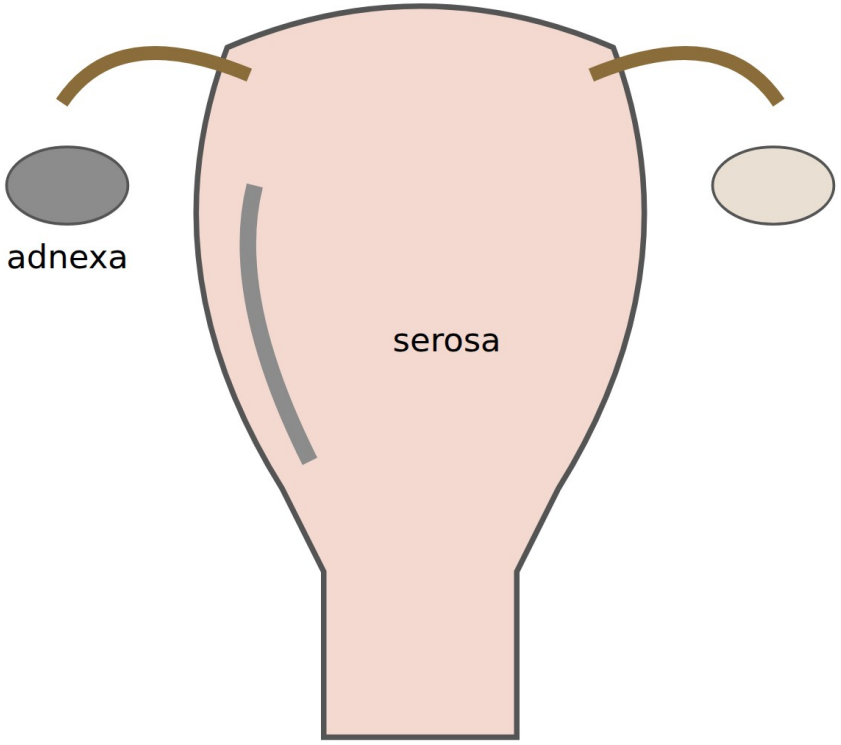
Size of nodal deposits and what they mean for stage



TNM	pN0(i+)	pN1(mi) / pN2(mi)	pN1 / pN2
FIGO	no change in stage	IIIC1 / IIIC2	IIIC1 / IIIC2

Sources: CAP 2023 · ICCR 5th ed. · ISGyP staging 2021

Adnexa and uterine serosa: FIGO vs TNM



FIGO 2018

not M1 — does not change stage

UICC 9th ed. · AJCC V9

distant metastasis (M1)

Major FIGO–TNM difference noted in ICCR 5th edition and CAP 2023

Sources: CAP 2023 · ICCR 5th ed. · ISGyP staging 2021

PART 4

Reporting

What the oncologist reads · histological type and grade · Silva pattern · Sedlis and adjuvant therapy · LVI and margins

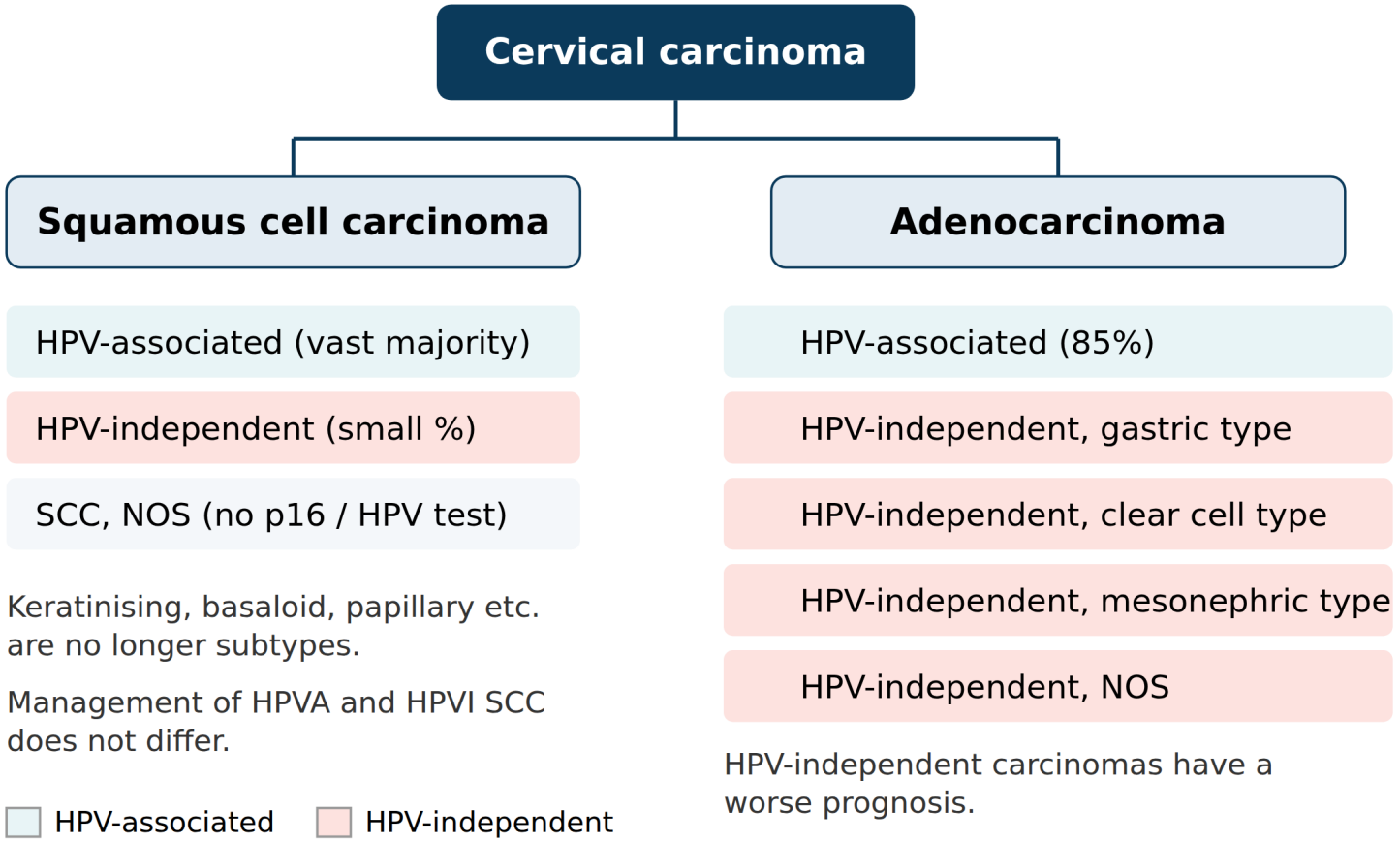


What your oncologist reads in the report

- **Tumour site and volume** — in multiple dimensions
- **Histological type and grade** — classify by HPV status: p16 in every SCC (a recent positive HPV test can substitute; WHO 6th); HPV status on every adenocarcinoma — HPV ISH or molecular preferred, p16 IHC acceptable (NCCN 2027)
- **Pattern of invasion** — Silva, applicable only to HPV-associated endocervical adenocarcinoma (now listed in the NCCN pathologic assessment)
- **Margins and LVSI** — LVSI does not change the FIGO stage, but some panel members consider IA1 with extensive LVSI should be treated as IB1
- **Lymph nodes** — number and location of nodes with isolated tumour cells, micro- and macrometastases; sentinel nodes ultrastaged
- **Other sites** — parametrium, vaginal cuff, fallopian tubes, ovaries, peritoneum, omentum



Classify by HPV status first



Sources: CAP 2023 · ICCR 5th ed., Notes 9 and 10

Beyond the diagram: what else to know about type

- **HPVA vs HPVI SCC** cannot be told apart on morphology — ICCR: p16 and/or HPV testing generally required; WHO 6th: p16 essential in every SCC (a recent positive HPV test can substitute); confirm non-block p16 with an HPV test
- **HPVA adenocarcinoma** — luminal mitoses and apoptotic bodies are a clue, not proof; WHO 6th: low threshold for p16/HPV testing; NCCN 2027: HPV status on every adenocarcinoma (ISH/molecular preferred, p16 acceptable)
- **Invasive stratified mucin-producing carcinoma** — aggressive and always high grade: name it. Primary serous carcinoma of the cervix is no longer an accepted entity
- **Neuroendocrine carcinoma component** → report as mixed, with its percentage; newer data: one-third of NEC are HPV-independent (ICCR: rare) — report HPV status

New data: HPV-independent SCC

Stolnicu et al., Mod Pathol 2025 · 49 true HPVI (HPV−/p16−) vs 363 HPVA SCC

	HPVI vs HPVA
Age	median 68 y; 77.6% ≥60 y; 14.2% uterine prolapse
Stage I	20.0% vs 61.4%
Keratinizing	66.7% vs 42.0%
p53 abnormal	46.7% vs 1.7%
Recurrence	58.1% vs 24.1%
Died of disease	51.2% vs 17.0%

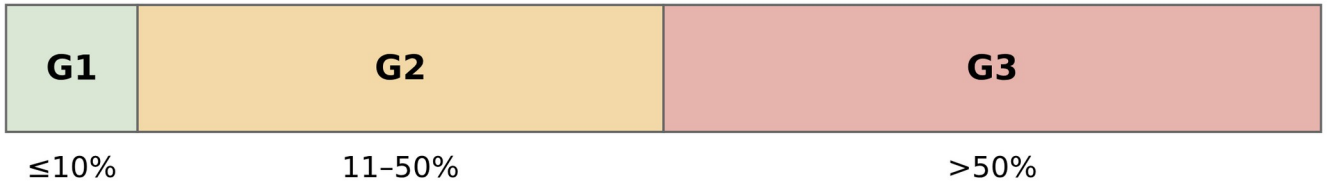
Consider HPV (or p16) and p53 testing in SCC, especially over 60 years



Sources: ICCR 5th ed., Notes 9 and 10 · Stolnicu et al. Mod Pathol 2025 · Chapel & Nucci, WHO 6th ed. update, 2026 · NCCN v1.2027

Grade only HPV-associated adenocarcinoma

Proportion of solid growth (confluent microacinar pattern = solid)



Upgrade when marked nuclear atypia involves the majority (>50%) of the tumour.

Not graded

- Micropapillary, signet-ring or invasive SMC component (high grade)
- HPV-independent adenocarcinomas, especially gastric type
- SCC: ICCR – do not grade ≠ CAP – grade required

ICCR: grade is non-core. Bar widths are not to scale.

ICCR 5th edition (ISGyP system): grade HPV-associated adenocarcinoma only; do not grade HPV-independent adenocarcinomas (especially gastric type) or SCC. CAP keeps a required grade field for all types (G1–G3, GX, not applicable).

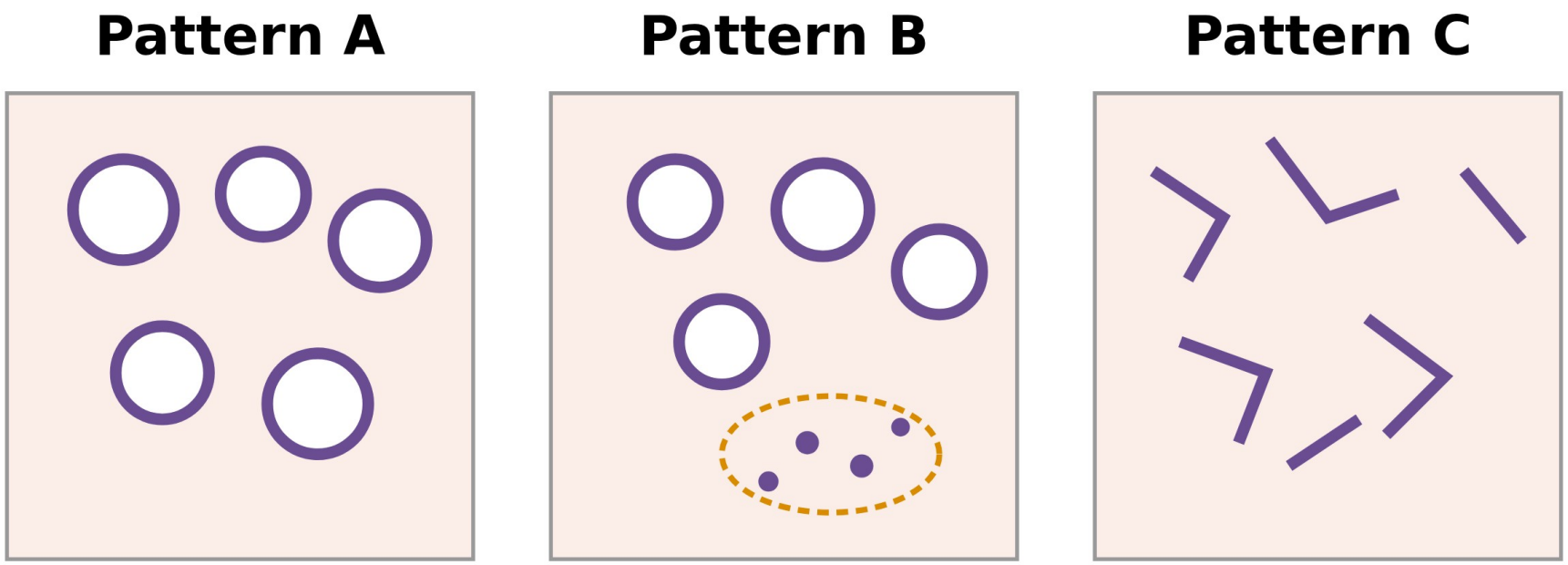
Sources: CAP 2023 · ICCR 5th ed., Notes 9 and 10

Silva pattern classification for HPV-associated adenocarcinoma

- Only for **HPVA** adenocarcinoma on **complete resections** (cone/LEEP with negative margins, trachelectomy, hysterectomy); not for HPVI tumours
- **Pattern A:** well-formed glands, no destructive invasion, no single cells, no solid growth or high-grade cytology, no LVI
- **Pattern B:** localised destructive invasion from A-type glands, not exceeding 5 mm contiguously; LVI may be present
- **Pattern C:** diffuse destructive invasion; angulated, labyrinthine or fragmented glands; solid or confluent growth; CAP: confluent glands filling a 4× field (5 mm)
- Nodal metastasis in the original study: 0%, 4.4% and 23.8%
- ICCR: non-core; CAP: optional; NCCN 2027: part of the pathologic assessment
- **WHO 6th (2026)** includes, without endorsing, a binary Silva: A or B without LVI = low risk; C or B with LVI = high risk — still only for completely resected HPVA adenocarcinoma

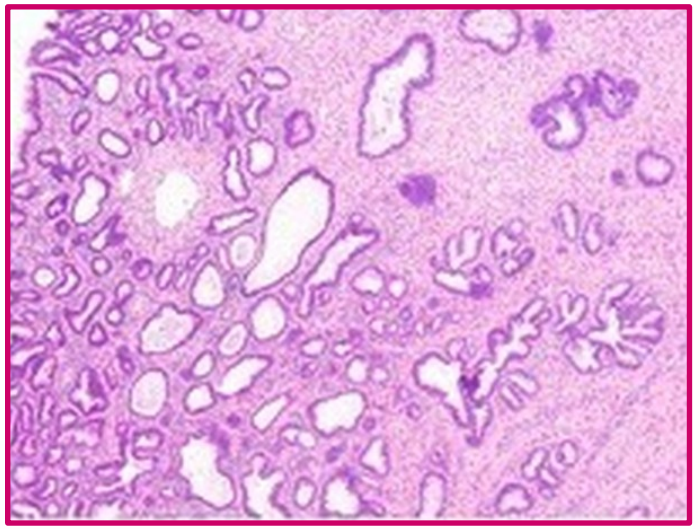


Silva patterns at a glance



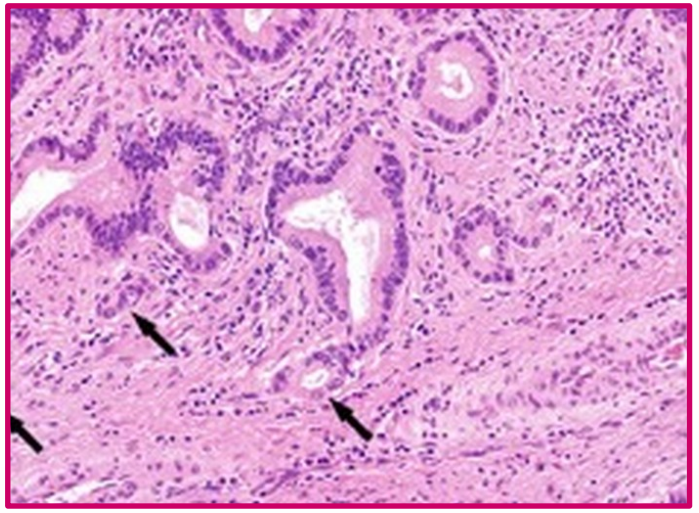
Silva patterns: histology

Pattern A



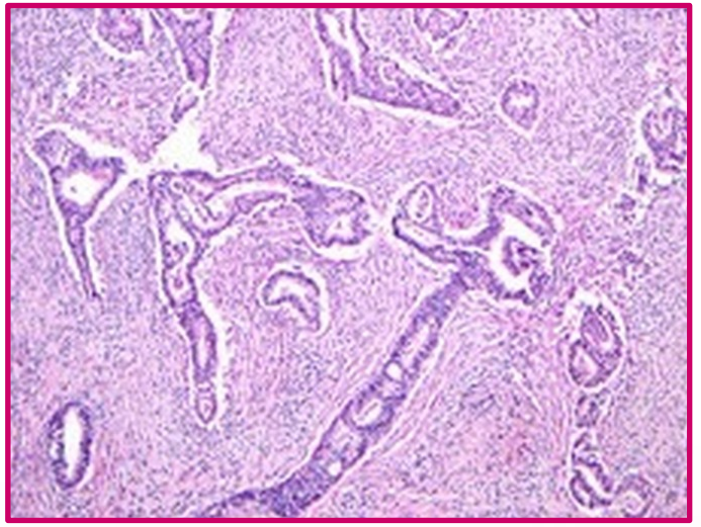
Well-formed glands, no destructive invasion

Pattern B



Localised destructive invasion ≤5 mm from A-type glands

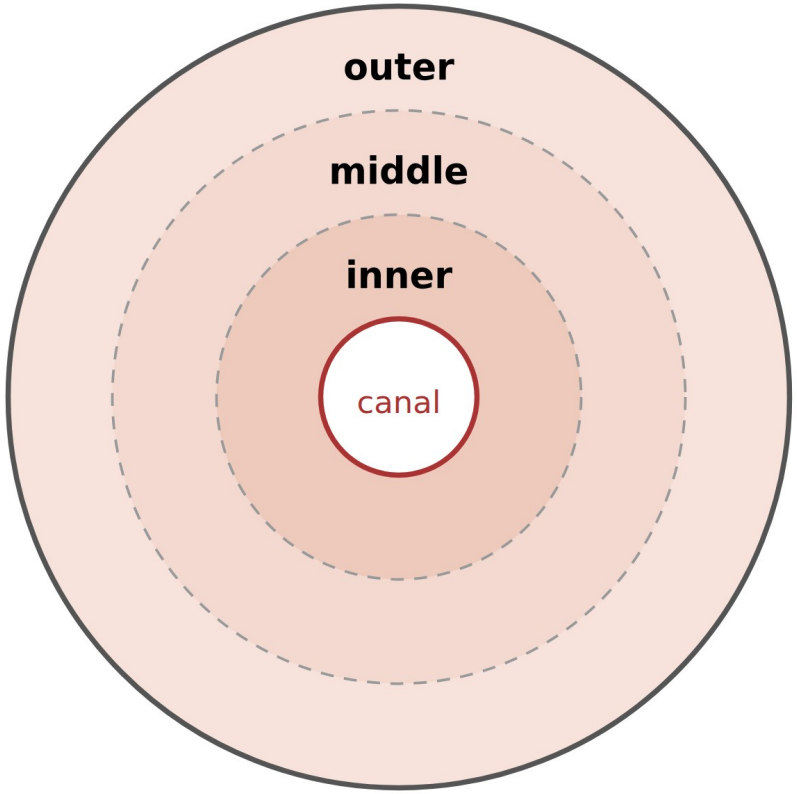
Pattern C



Diffuse destructive invasion; confluent / solid growth

Sources: CAP 2023 · ICCR 5th ed., Note 13

Sedlis criteria: why the deepest third is now core



Sedlis criteria: three parameters

1 · Tumour size

2 · LVI present or absent

3 · Depth: inner, middle or outer third of the stroma

Applied after radical hysterectomy with negative nodes, parametria and margins, to decide on adjuvant pelvic radiation.

Sources: CAP 2023 · ICCR 5th ed., Note 7

When does pathology trigger adjuvant therapy after radical hysterectomy?

Risk group	LVI	Stromal invasion	Tumour size	Usual adjuvant treatment
High risk (Peters)	Any of: positive pelvic lymph nodes · positive margins · microscopic parametrial involvement			**Concurrent chemoradiation (pelvic RT + cisplatin-based chemotherapy)**
Intermediate risk (Sedlis) — nodes, margins and parametria negative	Present	Deep third	Any	**Pelvic radiotherapy**
	Present	Middle third	≥2 cm	
	Present	Superficial third	≥5 cm	
	Absent	Middle or deep third	≥4 cm	

What the pathologist must report: nodes (with micro/ITC), every margin, parametria, LVI, deepest third of stroma and tumour size.

NCCN: pelvic EBRT for Sedlis (intermediate) risk; concurrent chemoradiation for Peters (high) risk.



Sources: Sedlis et al. 1999 (GOG 92) · Peters et al. 2000 · both cited in ICCR 5th ed. · NCCN v1.2027

LVI, depth in thirds and margins

- **LVI** never changes the FIGO or TNM stage, even in parametrial or adnexal vessels; tissue with only LVI is not "involved"
- Look for an endothelial lining, attachment to the wall, matching contour, fibrin; retraction is the main mimic; D2-40, CD31, CD34 may help
- ICCR: "indeterminate" only in crushed/cauterised tissue; no evidence supports counting vessels. CAP: "equivocal" with an explanatory note
- NEW **Deepest location in the cervical stroma** (inner, middle, outer third) is a core ICCR element — part of the Sedlis criteria. CAP: optional
- **Margins:** involvement is core; distance is non-core — except the distance to the endocervical margin in trachelectomy, which is core (it decides further excision or hysterectomy)
- HSIL, AIS and SMILE at a margin are core; CAP does not require HSIL/AIS margin status once invasive carcinoma is at the margin
- **Cone:** give the severity and extent (focal or diffuse) of a precursor lesion at the margin
- **Lateral radial margin** may be parametrial soft tissue — add its measured width to the margin distance; anterior/posterior radial margins = cervical stroma
- **"Cannot be assessed"** (cautery, fragments, poor orientation) — state the reason



Sources: CAP 2023, Note F · ICCR 5th ed., Notes 7, 11 and 14 · ISGyP staging 2021

Margins: positive, close or clear?

- **Positive**: invasive carcinoma touching the ink (perpendicular section) or present in an en face section; report invasive and in-situ disease separately
- **Close**: no agreed cut-off — studies after radical hysterectomy used <10 mm or ≤5 mm
- **Clear**: no exact figure defines a clear margin; no data on the optimal clearance — give the distance in mm and name the closest margin
- **Cone / LEEP (NCCN 2027):** negative = at least 1 mm free of invasive disease and of HSIL; say whether a positive margin is dysplasia or carcinoma — it decides repeat cone, type A or type B hysterectomy
- **Trachelectomy:** endocervical margin distance is core; intra-operatively, negative but <5 mm → more upper endocervix is removed (8–10 mm was the original optimum)
- **Hysterectomy (NCCN):** positive margin = high risk → chemoradiation; positive vaginal margin → vaginal brachytherapy may be added

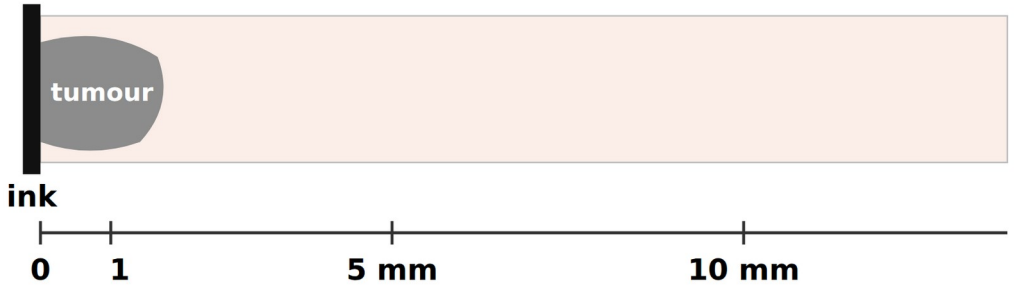


Sources: ISGyP gross 2021 · ICCR 5th ed., Note 14 · CAP 2023, Note F · RCPath 2021 · NCCN v1.2027 and v2.2026

Margin distance at a glance

Distance from invasive carcinoma to the inked margin

POSITIVE
carcinoma at the ink



Cone / LEEP (NCCN 2027)	**<1** · **≥1 mm free of invasive disease and HSIL = negative**
Study 1 (cited in ICCR)	**close <10 mm · 20%** · **≥10 mm · 11%**
Study 2 (cited in ICCR)	**≤5 mm · 24%** · **>5 mm · 9%**

% = recurrence after radical hysterectomy · study cut-offs only

Trachelectomy endocervical margin (intra-operative, ISGyP)			
	<5 mm remove more endocervix	**5-8** not defined	**8–10 mm** original optimum

"Clear": no agreed figure — give the exact distance in mm and the closest margin



Sources: NCCN v1.2027 · ICCR 5th ed., Note 14 · ISGyP gross 2021

Coming soon: WHO 6th edition (2026)

- **NEW HPV-independent CIN** — differentiated, basaloid (HSIL-like) and verruciform patterns; non-block p16 is essential
- **HPV-independent SCC** — <2% of cervical SCC (5th ed.: 5–7%); median age 68; p53 testing recommended when possible
- **Grading** — the ISGyP system for HPV-associated adenocarcinoma is now in the WHO book
- **Silva** — binary proposal included, not endorsed; only for completely resected HPV-associated adenocarcinoma
- **Gone or merged** — primary serous carcinoma of the cervix rejected; small and large cell NEC in one chapter; MiNEN introduced
- **Words** — "variant" now means a genetic variant only; use subtype or pattern



Source: Chapel DB, Nucci MR. Surg Pathol Clin 2026 (based on an advanced draft of the WHO 6th edition)

Five messages to take home

1. **Every millimetre stages**
   Depth from the epithelium of origin sets IA (3 / 5 mm), size sets IB1–IB3 (20 / 40 mm), and depths are never added across specimens.

2. **Gross by margins and size**
   Ink before opening, pin the cuff stretched and submit cones entirely; whole cervix if no visible tumour, whole tumour if ≤2 cm, otherwise deepest invasion and closest margins.

3. **Margins in millimetres**
   Give every margin in mm — a cone is negative only if ≥1 mm clear of carcinoma and HSIL.

4. **HPV status first**
   Do p16 in every SCC (a recent positive HPV test can replace it), determine HPV status in every adenocarcinoma, and grade or apply Silva only to HPV-associated adenocarcinoma.

5. **Report what drives treatment**
   Nodes, LVI, the deepest third of the stroma, parametria and margins decide adjuvant therapy — report them all.



