

Endocervical Polyps

Morphology, clinical significance, and differential diagnosis

Dr Abu Suraih Sakhri

MBBS, MD (Pathology)

www.abusuraihsakhri.com

Learning outcomes

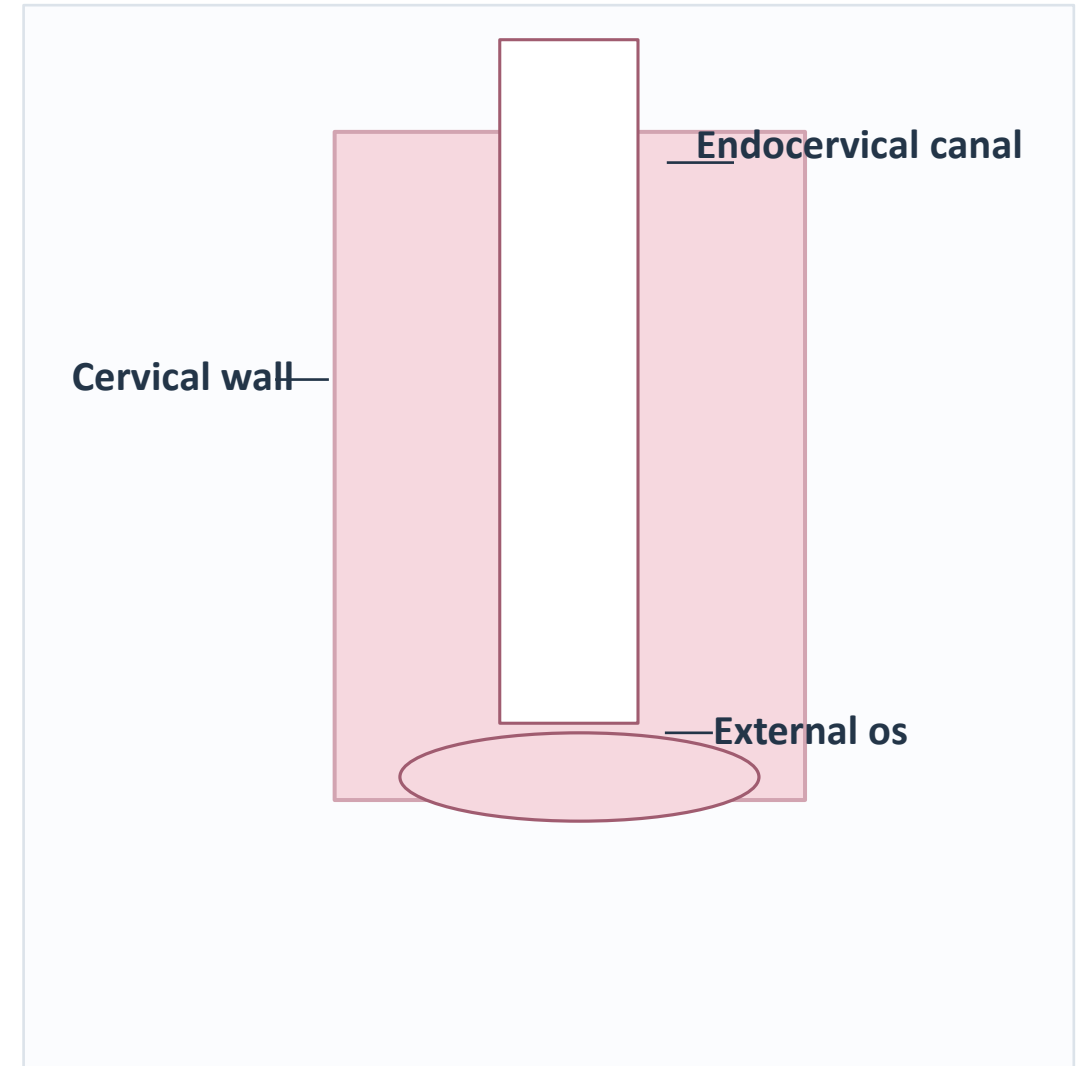
- Localize the polyp within normal cervical anatomy.
- Recognize the core gross and microscopic features.
- Relate stromal inflammation and vascularity to symptoms.
- Differentiate a benign polyp from clinically important mimics.
- Outline practical evaluation and follow-up principles.

Definition: A benign endocervical projection

- Endocervical polyps arise within the endocervical canal.
- They project outward rather than infiltrating cervical tissue.
- Polypoid shape is a pattern of growth, not a diagnosis by itself.
- Typical lesions are benign but may produce troublesome bleeding.

Anatomic origin: The cervical canal

- The ectocervix faces the vagina.
- The endocervix is the canal connecting the os with the uterine cavity.
- The endocervical surface is mucus-secreting columnar epithelium.
- A polyp develops from the lining of this canal.



Ectocervix and endocervix: Distinct linings

Ectocervix

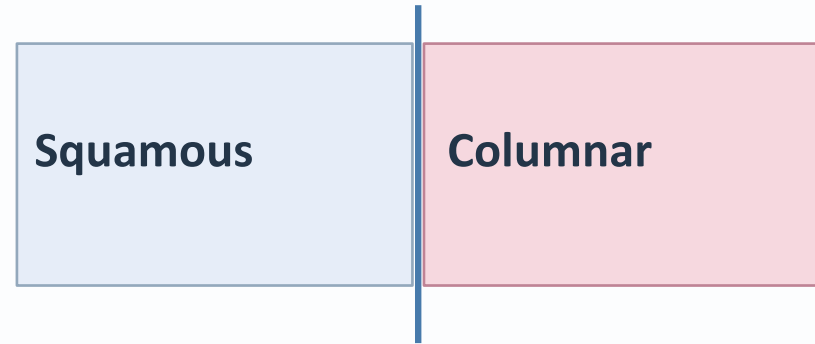
Mature stratified squamous epithelium faces the vaginal environment.

Endocervix

Columnar, mucus-secreting epithelium and mucinous glands line the canal.

The squamocolumnar junction is mobile

- The squamous and columnar epithelia meet at the junction.
- Position varies with age and hormonal milieu.
- Squamous metaplasia can remodel exposed glandular epithelium.
- A polyp may therefore be surfaced by more than one epithelial pattern.



Squamocolumnar junction

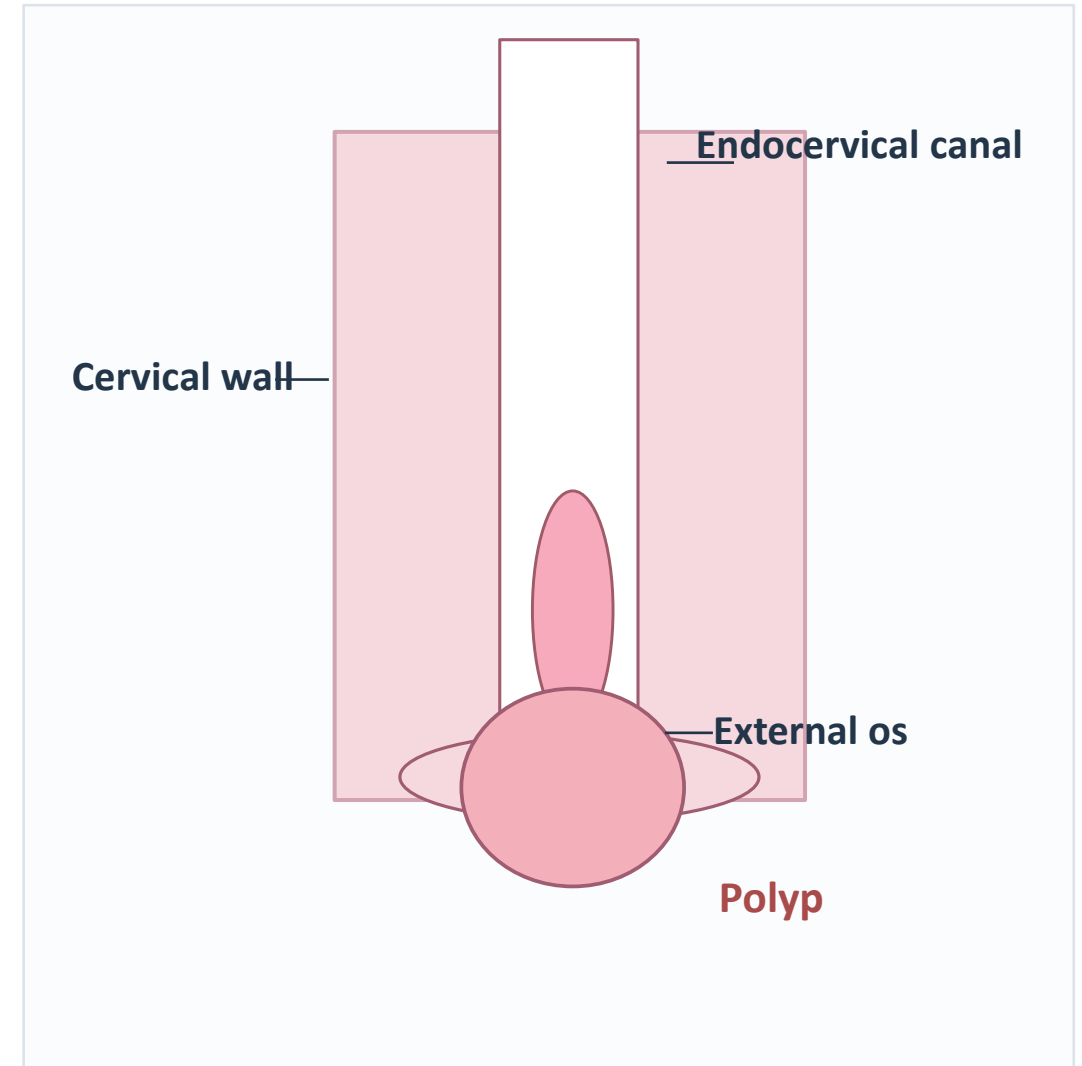
Location varies with age and hormones

Normal endocervical glands: A reference point

- Glandular mucinous cells line glandular lumina.
- Glands are embedded within cervical connective tissue.
- The normal lining explains the mucinous surface of a polyp.
- Recognition of benign gland architecture anchors microscopic diagnosis.

Exophytic configuration

- “Exophytic” means projecting away from the supporting surface.
- Growth into the cervical lumen may become externally visible.
- The outward position makes contact bleeding plausible.
- Exophytic appearance alone does not establish benignity.



Sessile and pedunculated forms

Sessile projection

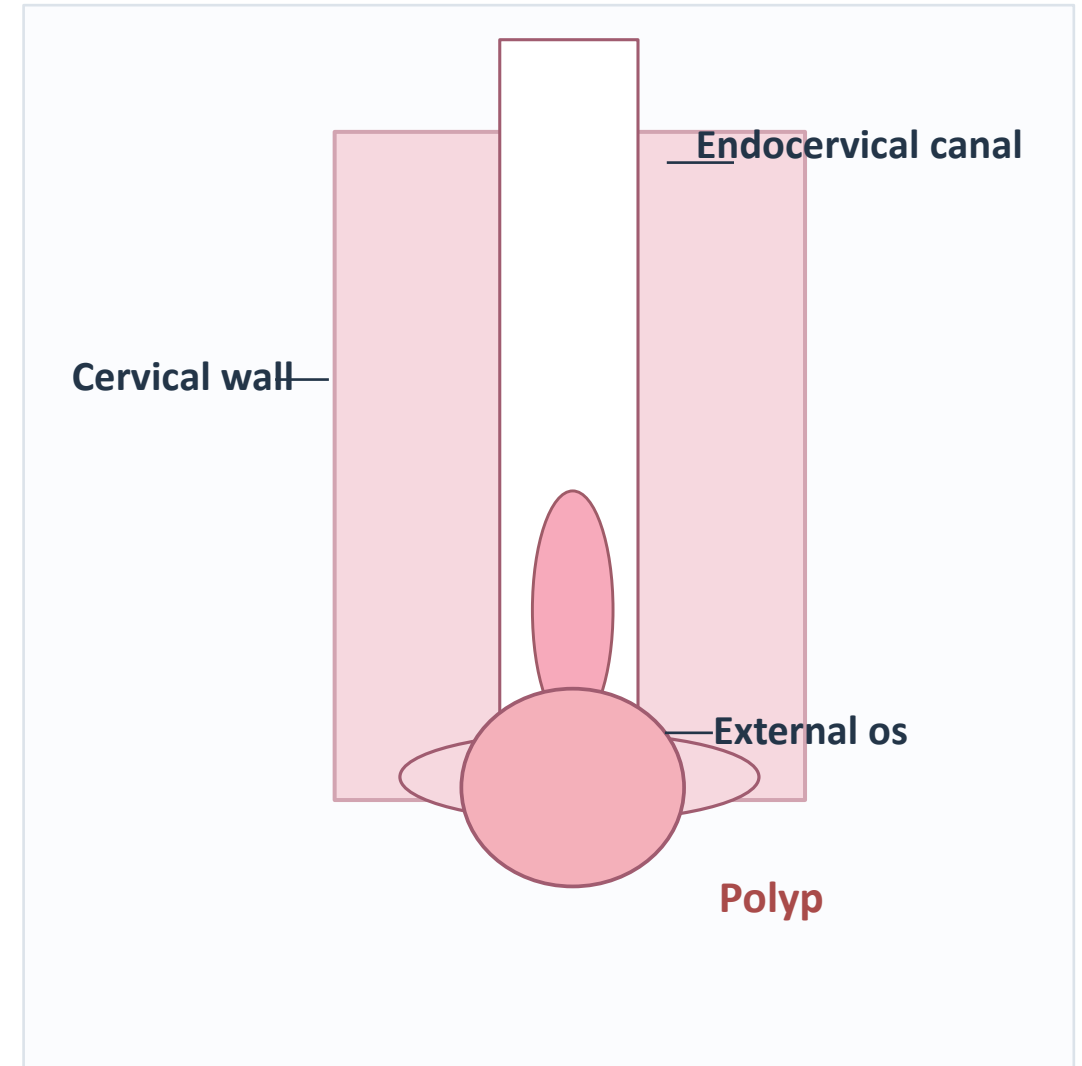
A broad-based mucosal elevation may remain within the canal.

Pedunculated projection

A narrow stalk permits a larger body to protrude through the external os.

From small bump to protruding mass

- A broad spectrum of gross sizes.
- Small lesions may resemble local mucosal bumps.
- Larger masses can project through the cervical os.
- Neither size nor configuration substitutes for tissue assessment when indicated.



Benign histology is the central distinction

- A cervical mass is a clinical observation.
- A benign endocervical polyp is a histopathologic interpretation.
- Symptoms overlap with inflammatory and neoplastic lesions.
- Concordance between examination and histology supports the diagnosis.

Frequency and incidental discovery

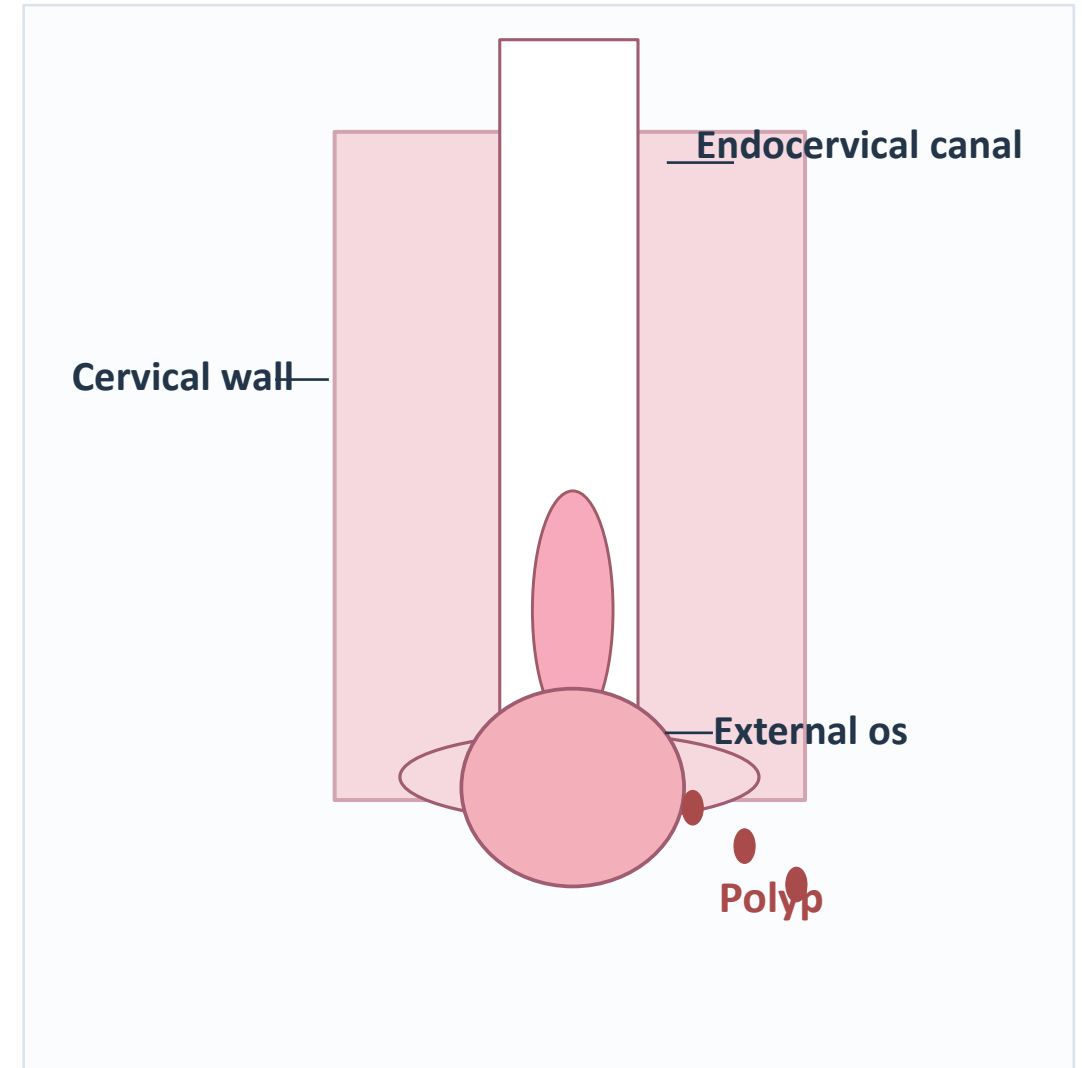
- Cervical polyps are encountered commonly in clinical practice.
- A current clinical reference estimates a prevalence of 2%–5%.
- Many are asymptomatic and discovered on speculum examination.
- The prevalence estimate refers to cervical polyps broadly, not histologic variants.

Symptoms: An asymptomatic lesion is common

- Most cervical polyps produce no symptoms.
- Clinicians may notice one during routine pelvic evaluation.
- A symptom-free polyp is not automatically an indication for extensive testing.
- Clinical context and any suspicious findings remain important.

Why a polyp may produce spotting

- A protruding lesion may be mechanically contacted.
- Fragile or inflamed mucosal surfaces can bleed.
- The degree of bleeding need not parallel polyp size.
- Bleeding still requires appropriate differential assessment.



Intermenstrual bleeding

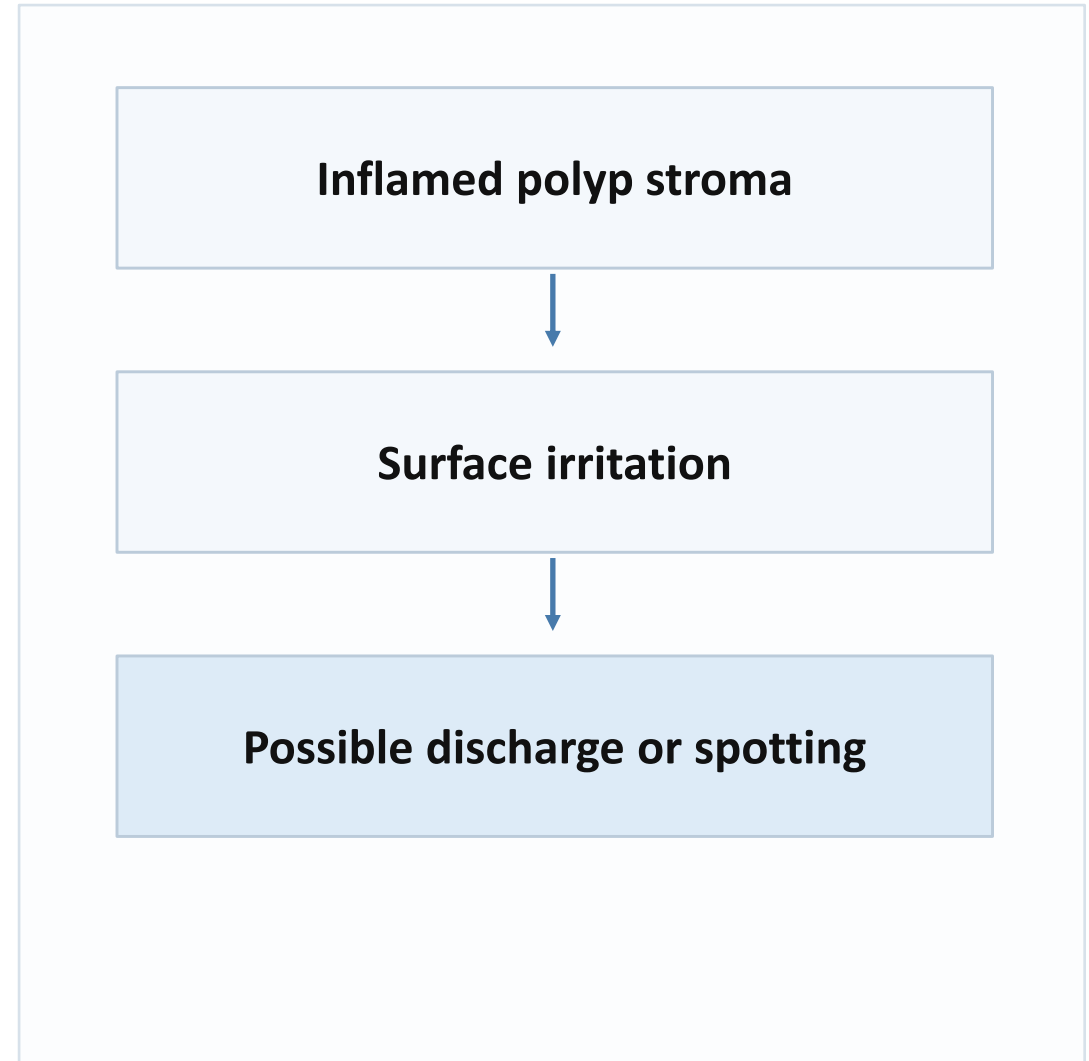
- Spotting between expected menstrual periods is a recognized presentation.
- A visible cervical polyp is a possible source.
- Other cervical and uterine bleeding sources may coexist.
- Do not attribute persistent bleeding to the polyp without reassessment.

Postcoital bleeding: An examination trigger

- Contact with a protruding lesion can produce bleeding.
- Postcoital bleeding also occurs with cervical dysplasia or malignancy.
- The visible lesion must be assessed for atypical appearance.
- Screening and referral decisions depend on the overall clinical picture.

Inflammation and vaginal discharge

- Inflammatory infiltrates are common within cervical polyps.
- An inflamed or infected lesion may be associated with discharge.
- Purulent discharge requires consideration of cervical infection.
- A polyp does not exclude coincident cervicitis.



Symptoms are clinically nonspecific

What spotting tells us

A mucosal surface has bled; Its cause remains to be determined.

What microscopy tells us

Whether the removed tissue shows benign glands and stroma, or concerning atypical features.

Speculum examination: Useful observations

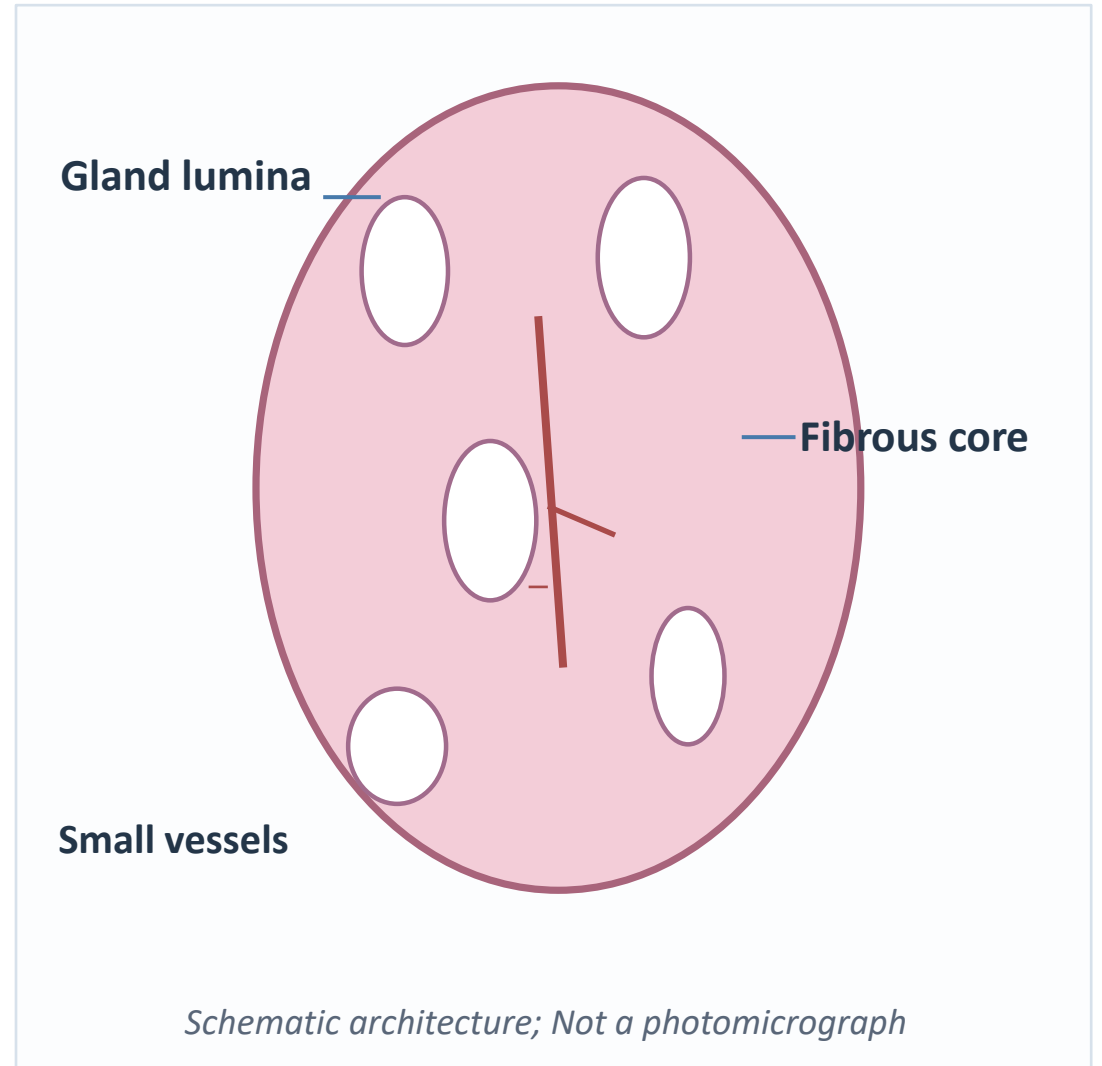
- Identify whether a lesion arises from the external os.
- Describe size, surface, stalk or base, and any friability.
- Look for synchronous abnormal cervical surfaces or discharge.
- Document bleeding history and cervical screening status.

Polypectomy specimen: Interpret systematically

- 1** Verify what tissue and anatomic site were submitted.
- 2** Inspect the overall polyp architecture at low power.
- 3** Evaluate covering epithelium and glands.
- 4** Assess stroma, vessels, inflammation, and atypia.
- 5** Integrate pathology findings with the clinical appearance.

Low-power pattern: A fibroglandular projection

- A mucosa-covered projection contains connective tissue.
- Glands may be present within or over the stromal core.
- The architecture should be coherent with the sampled tissue.
- This schematic does not replace diagnostic microscopy.



Epithelial covering: Mucinous columnar cells

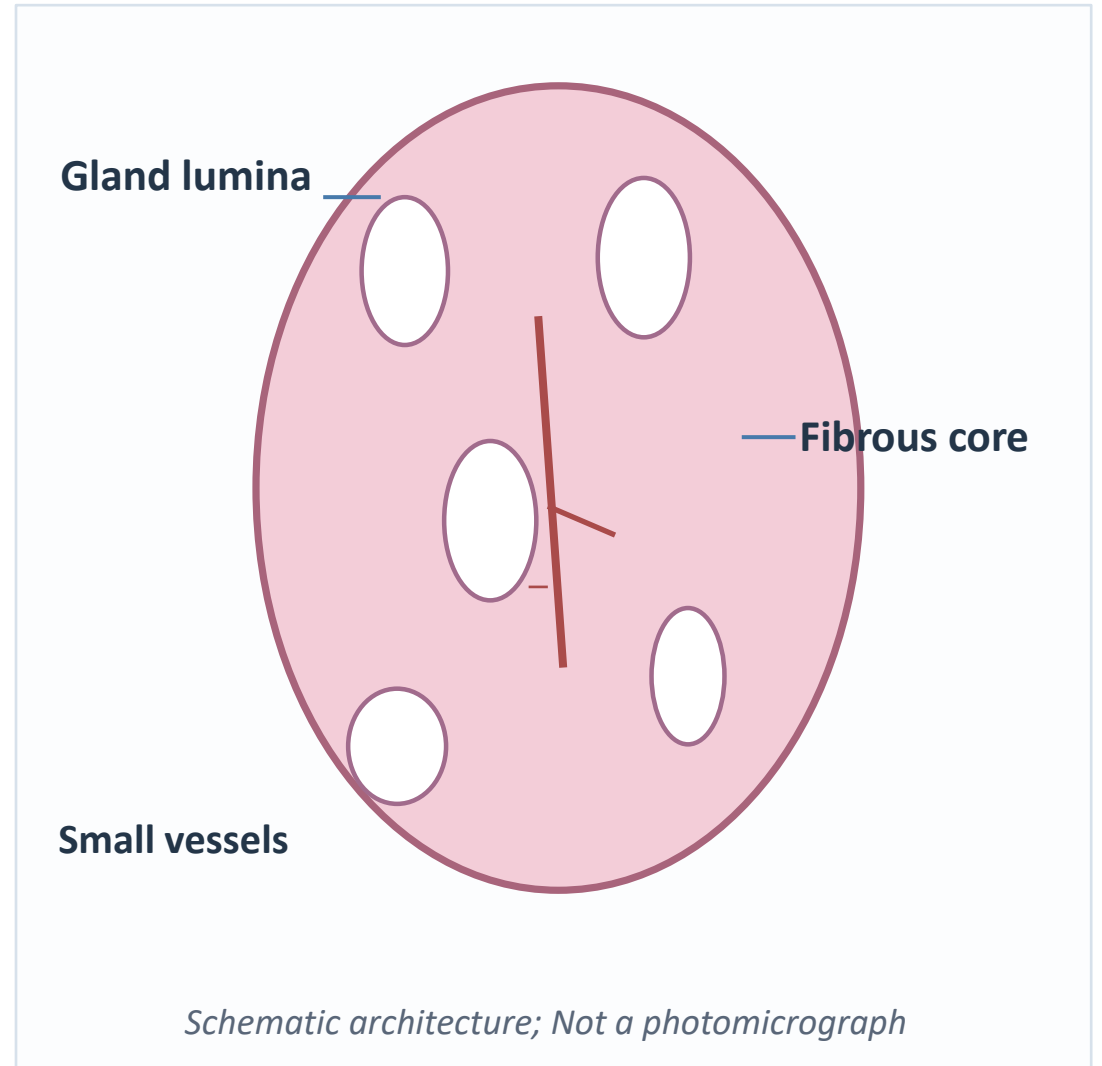
- The characteristic epithelial phenotype is endocervical mucinous.
- A glandular surface connects the lesion to its site of origin.
- Benign nuclear features are expected in an uncomplicated lesion.
- An atypical glandular population requires separate assessment.

Gland configuration in an endocervical polyp

- Mucinous endocervical glands are incorporated in the lesion.
- Variability in gland diameter does not alone imply malignancy.
- Gland location must be interpreted in architectural context.
- Cytology and growth pattern matter more than one isolated gland shape.

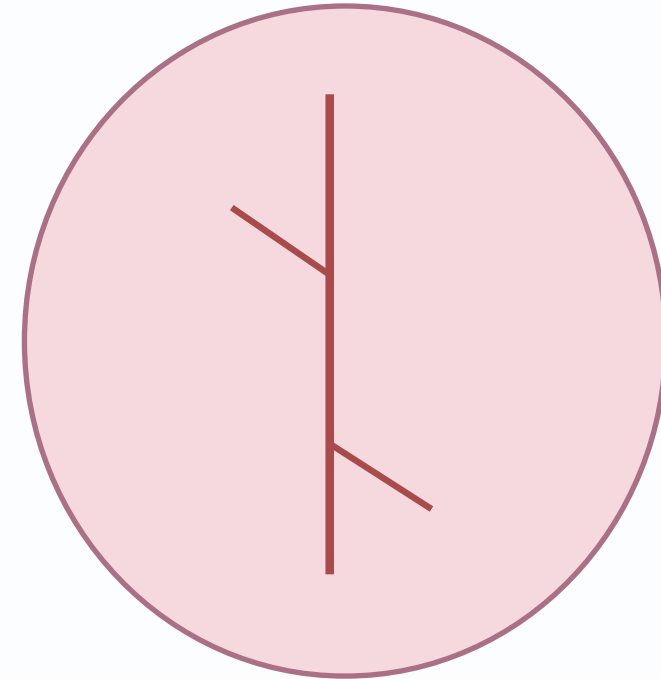
Fibrous stroma: The structural core

- Fibrous connective tissue supports the polyp.
- Stromal density can vary across the lesion.
- The stromal component distinguishes a true tissue projection from surface-only change.
- Interpret spindle cells in relation to inflammation and overall atypia.



Vascular component: A fibrovascular lesion

- Blood vessels traverse the supporting connective tissue.
- Some polyps show stromal congestion or vascular prominence.
- A friable vascular surface offers a clinicopathologic basis for spotting.
- Vascularity alone is not evidence of malignancy.



Stromal vessels

Schematic fibrovascular core

Edematous stroma: Possible variation

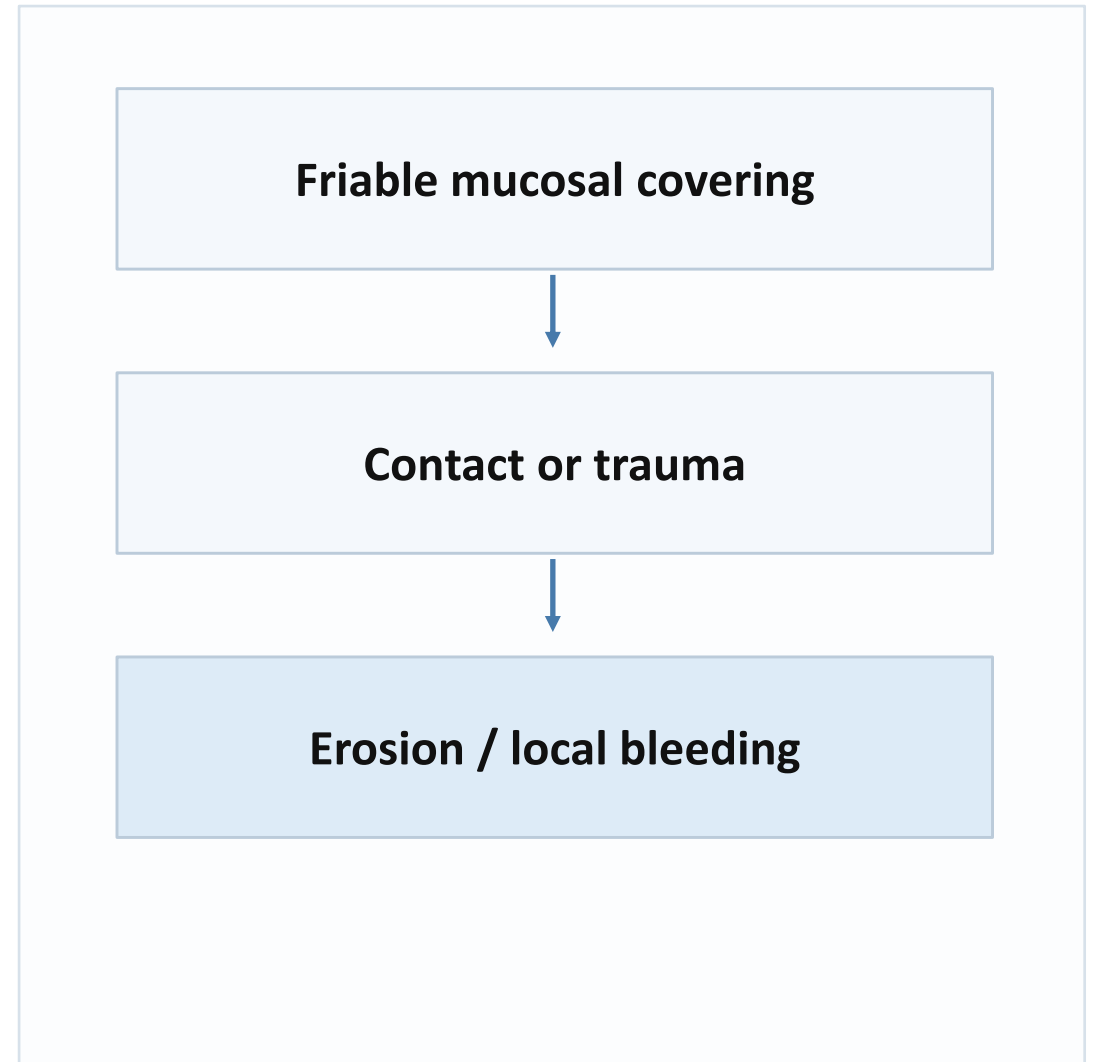
- A polyp may contain loosely textured or edematous connective tissue.
- Edema modifies tissue appearance without necessarily changing the diagnosis.
- Fibrous and edematous areas may coexist.
- Exclude concerning stromal atypia before calling a variant benign.

Inflammatory infiltrates

- Inflammation often accompanies a polyp.
- Inflammation can be localized or distributed through the stroma.
- Associated reactive epithelial findings may complicate interpretation.
- Inflammation should not obscure a genuinely atypical epithelial lesion.

Surface erosion and repair

- A traumatized polyp surface can be eroded.
- Regenerative epithelium and inflammatory cells may be present.
- Bleeding may arise from exposed stromal vessels.
- Interpret reactive atypia with its morphologic context.



Squamous metaplasia on a cervical polyp

- Cervical glandular mucosa may undergo squamous metaplasia.
- Metaplastic coverage is compatible with a benign polyp.
- Distinguish benign metaplastic maturation from dysplastic atypia.
- The squamocolumnar environment helps explain mixed lining patterns.

Microarchitecture: What each component contributes

Glandular surface

Mucus-secreting epithelium identifies endocervical differentiation and the tissue of origin.

Stromal core

Fibrous tissue, vessels, and inflammation explain physical structure and possible bleeding.

Gross–microscopic correlation

- The stalk or broad attachment forms the base of the exophytic lesion.
- A larger projecting body corresponds to a mucosa-covered stromal core.
- Fleishy or red appearance may reflect vascularity and surface change.
- Microscopy confirms the features that appearance only suggests.

Pathology report: Essential diagnostic elements

- State the submitted site and type of specimen.
- Give the diagnosis when the features support a benign endocervical polyp.
- Describe relevant epithelial or stromal atypia if present.
- Report an additional lesion separately rather than subsuming it as a polyp.

When is the finding adequately benign?

- Architecture is compatible with a polypoid endocervical projection.
- Epithelium lacks a concerning dysplastic or malignant pattern.
- Stroma shows no worrisome sarcomatous pattern.
- There is no contradictory clinical or histologic feature requiring further work-up.

Atypical appearances require diagnostic caution

- An unusually irregular, ulcerated, or broad-based cervical lesion merits attention.
- Cytologic atypia should be evaluated rather than presumed reactive.
- Persistent unexplained bleeding changes clinical risk assessment.
- Histology and examination should be reconciled before reassurance.

Atypical glandular epithelium: Key questions

- Are the atypical nuclei uniform or markedly variable?
- Is there convincing loss of glandular maturation or architecture?
- Are atypical cells restricted to inflamed or eroded surface?
- Would additional sampling change a benign interpretation?

Cervical cytology is not polyp histology

- Pap testing assesses exfoliated cells for cervical precancer.
- A normal screening result does not identify the histology of a visible mass.
- A benign polyp does not invalidate indicated cervical cancer screening.
- A suspicious mass needs lesion-directed evaluation.

Pap / HPV screening

Evaluates cervical screening risk

Polyp histopathology

Evaluates the excised tissue

Nabothian cyst versus a polyp

Nabothian cyst

Mucus retention produces a cystic lesion within cervical tissue; Often a smooth, cyst-like contour.

Endocervical polyp

A solid fibroglandular mucosal projection may form a stalk and protrude through the os.

Ectropion versus a discrete polyp

Cervical ectropion

A surface distribution of endocervical columnar epithelium onto ectocervix.

Endocervical polyp

A localized exophytic mass rather than diffuse eversion of the epithelial surface.

Cervicitis versus an endocervical polyp

Cervicitis

Inflamed cervical mucosa may be erythematous, friable, and discharge-producing.

Endocervical polyp

A localized mass with a connective tissue core; It can itself be inflamed.

Prolapsed endometrial polyp versus cervical origin

Prolapsed endometrial polyp

Originates from the uterine corpus and can extend through the cervical os.

Endocervical polyp

Originates in the endocervical mucosa;
Morphology favors mucinous cervical glands.

Prolapsed leiomyoma versus cervical polyp

Leiomyoma

A smooth-muscle mass, potentially arising within uterus and protruding through cervix.

Endocervical polyp

A fibroglandular mucosal growth rather than a predominantly smooth-muscle tumor.

Cervical neoplasia versus benign polyp

Concerning neoplasia

May show abnormal surface, atypia, infiltrative architecture, or discordant symptoms.

Benign endocervical polyp

Characteristic glandular covering and fibrous stroma without malignant features.

Differential diagnosis: Discriminating features

Entity	Typical presentation	Distinguishing tissue
Endocervical polyp	Focal mucosal projection	Mucinous glands + fibrous core
Nabothian cyst	Smooth cyst-like bump	Mucus-filled retention cyst
Cervicitis	Diffuse inflammation $\pm$ discharge	Inflammatory/reparative changes
Endometrial polyp	Mass may descend through os	Endometrial glands and stroma
Neoplasia	Potential atypical irregular lesion	Epithelial atypia or invasion

Cervical bleeding: Avoid premature closure

- The presence of a polyp does not prove it caused all bleeding.
- Consider whether bleeding is intermenstrual, postcoital, or postmenopausal.
- Check cervical examination, screening status, and other symptoms.
- Persistent bleeding merits reassessment despite apparently benign tissue.

Risk communication without alarm

- Most endocervical polyps are benign.
- Atypical appearance, abnormal screening, or persistent bleeding changes management.
- Clinical concern is evaluated rather than inferred from prevalence alone.
- Pathologic confirmation is useful when tissue has been removed.

Typical, asymptomatic polyp

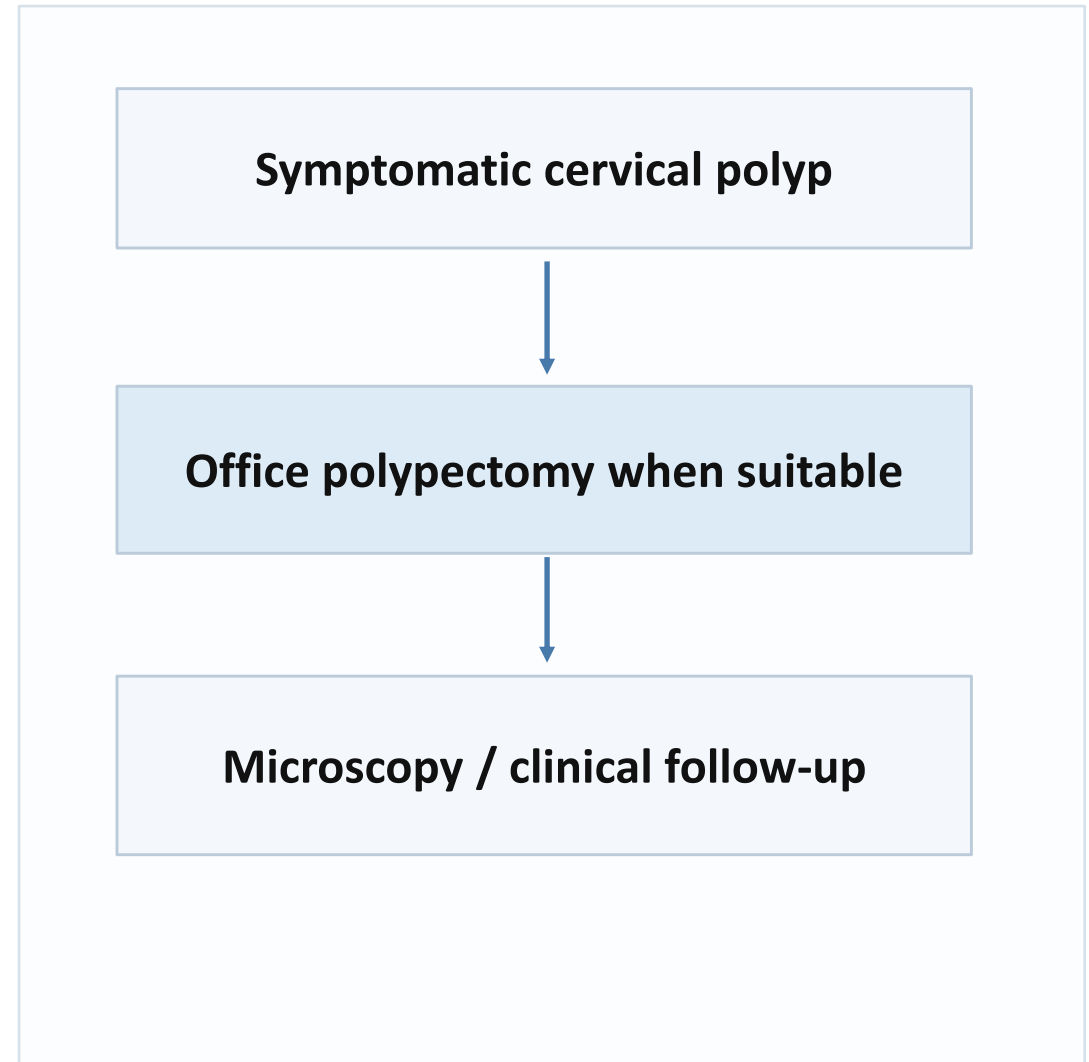
Observation may be appropriate

Bleeding, atypia, or uncertainty

Examination ± directed evaluation

When removal is clinically useful

- Bleeding or symptomatic discharge can justify polypectomy.
- A suspicious or diagnostically uncertain lesion merits tissue evaluation.
- A straightforward symptomatic polyp is often removed as an outpatient.
- Additional investigation is guided by the clinical findings.



Asymptomatic lesions: Avoid reflex overtreatment

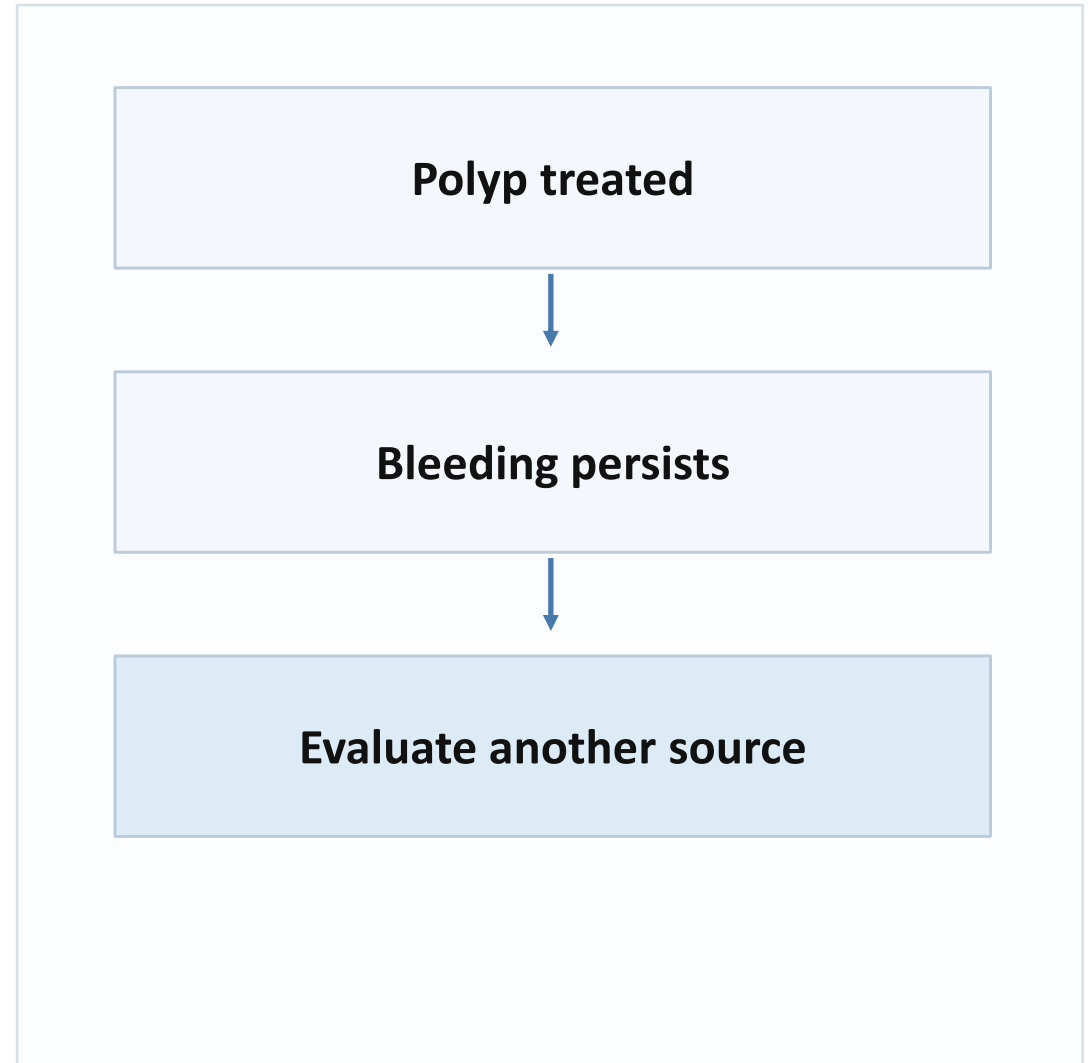
- An asymptomatic typical polyp may be managed with observation.
- No strong evidence supports routine invasive intervention for every small polyp.
- The clinical examination and screening context still matter.
- Counseling and shared decision making influence management.

Histopathology after polypectomy

- The excised specimen can establish the tissue diagnosis.
- Review of the epithelial lining and core addresses clinical uncertainty.
- Do not confuse benign stromal inflammation with a dysplastic diagnosis.
- Unexpected atypia should be documented and clinically communicated.

Persistent bleeding after removal

- Resolution of symptoms supports a local bleeding source.
- Persistent bleeding means the initial explanation may be incomplete.
- Consider additional cervical or uterine sources.
- Further evaluation, including endometrial sampling when indicated, is appropriate.



Evaluation sequence for a visible cervical projection

- 1** Characterize bleeding, discharge, and screening context.
- 2** Examine the cervix and identify the lesion's attachment.
- 3** Assess for suspicious surface or associated abnormalities.
- 4** Choose observation, removal, or directed evaluation as indicated.
- 5** Review pathology when sampled; Reassess persistent symptoms.

Clinical case: Incidental small cervical projection

- A patient has no bleeding or discharge.
- A small smooth projection is seen within the external os.
- Cervical screening history is reviewed and examination is otherwise reassuring.
- Question: What clinical features would justify intervention?

Incidental polyp: Interpretation

- A typical painless polyp may be observed in an appropriate setting.
- Removal is reasonable if symptoms develop or findings are concerning.
- Routine extensive curettage is not inherently required.
- The management decision should account for patient preferences.

Clinical case: Recurrent spotting

- A patient reports intermenstrual and postcoital spotting.
- A friable red projection is visible through the cervical os.
- Examination also requires assessment for other cervical abnormalities.
- Question: What are the immediate clinical and pathology priorities?

Spotting case: Priorities

- The polyp may explain local contact bleeding.
- Consider removal if symptoms are attributable to the lesion.
- Review sampled tissue for benign architecture and atypia.
- Do not disregard persistent bleeding or abnormal cervical screening.

Microscopy exercise: Name the components

- A projection is covered by mucus-secreting glandular cells.
- A fibrous connective tissue core contains vessels.
- Chronic inflammatory cells are admixed in the stroma.
- There is no described destructive invasion or malignant cytology.
- Question: What is the best integrated interpretation?

Microscopy exercise: Model answer

- The constellation supports a benign endocervical polyp.
- Glandular lining identifies endocervical differentiation.
- The stromal core establishes true polyp architecture.
- Inflammatory and vascular changes can account for friability.
- Diagnostic terminology should remain confined to observed findings.

Core pattern: Anatomy → morphology → symptom

Anatomic basis

A gland-bearing mucosal projection arises from the endocervical canal.

Clinical effect

A projecting, sometimes inflamed and vascular lesion may bleed or discharge.

Three observations to retain

- Site: Benign exophytic growth arising in the endocervical canal.
- Histology: Mucinous glandular epithelium over fibrous stroma, often inflamed.
- Consequence: Spotting that may simulate a more serious cervical lesion.
- Outcome: Simple excision is curative for a typical symptomatic polyp.

Origin: Cervical canal



Histology: Fibroglandular core



Presentation: Spotting

Selected reading and source distinction

Primary textbook

Robbins, Cotran & Kumar. Pathologic Basis of Disease. 11th ed. (2026). Chapter 22, pp. 904–906; p. 905 for the dedicated polyp section.

Supplementary clinical and morphology reading

Merck Manual Professional: Cervical Polyps (updated 2026).

Baker et al. Approach to cervical polyps in primary care (2025).

StatPearls / NCBI Bookshelf: Cervical Polyps (histology review).