

Women with pelvic symptoms may have pelvic pain, a pelvic mass, abnormal vaginal bleeding, or any combination of the three.

These patients may be placed in one of three categories:

1. Patients with pelvic pain, either without or with abnormal vaginal bleeding or a mass. Depending on the clinical circumstances (e.g., whether the pain is accompanied by vaginal bleeding and if the pain is suspected to be more likely coming from the uterus and ovaries or the bowel) patients may undergo either pelvic ultrasound or abdomen and pelvis CT. For patients undergoing CT, please see the dDx and RC “Abdominal pain” (which includes lower abdomen and pelvis causes of pain). For patients undergoing pelvic US, see the dDx later in this document and the RC for Pelvic pain.
2. Patients with vaginal bleeding without pain (with or without a mass). For these patients, see the dDx and RC for Painless vaginal bleeding.
3. Patients with a pelvic mass without pain or bleeding. For these patients, if the patient has abdominal (in addition to pelvic) symptoms, see the dDx and RC for Abdominal mass or distension. Additional causes of painless masses of the pelvis include fibroids and other, rare primary tumors of the uterus.

## CAUSES OF PELVIC PAIN

| Pelvic Pain                       | Goroll & Mulley | Porter | Eisenberg | Seller | Paulman | Kaspar | Total | Collected Cases     |
|-----------------------------------|-----------------|--------|-----------|--------|---------|--------|-------|---------------------|
| Endometriosis                     | x               | x      | x         | x      | x       | x      | 6     | 2                   |
| Pelvic inflammatory disease       | x               | x      | x         | x      | x       | x      | 6     | 2 (abscess)         |
| Ectopic pregnancy                 | x               | x      |           |        | x       | x      | 4     | 2                   |
| Uterine fibroids                  |                 | x      | x         | x      |         | x      | 4     | 5                   |
| Adenomyosis                       | x               |        | x         |        |         | x      | 3     |                     |
| Adnexal torsion                   | x               | x      |           |        |         | x      | 3     | 1                   |
| Appendicitis                      | x               |        |           |        | x       | x      | 3     | 18 (abdominal pain) |
| Endometrial cancer                | x               | x      |           |        |         | x      | 3     |                     |
| Mittelschmerz                     | x               | x      |           |        |         | x      | 3     |                     |
| Urinary tract infection           |                 |        | x         |        | x       | x      | 3     |                     |
| Adhesions                         | x               | x      |           |        |         |        | 2     |                     |
| Cervical stenosis                 |                 |        |           | x      |         | x      | 2     | 1 post ablation     |
| IUD                               | x               |        |           | x      |         |        | 2     | 2                   |
| Primary dysmenorrhea              | x               |        |           | x      |         |        | 2     |                     |
| Ruptured ovarian cyst             | x               | x      |           |        |         |        | 2     | 2                   |
| Benign neoplasms                  | x               |        |           |        |         |        | 1     | 2 dermoids          |
| Cholecystitis                     |                 |        |           |        |         | x      | 1     |                     |
| Diverticulitis                    |                 |        |           |        |         | x      | 1     | 22 (abdominal pain) |
| Dysmenorrhea                      |                 | x      |           |        |         |        | 1     |                     |
| Inflammatory bowel disease        | x               |        |           |        |         |        | 1     |                     |
| Intestinal obstruction            |                 |        |           |        |         | x      | 1     |                     |
| Irritable bowel syndrome          |                 |        | x         |        |         |        | 1     |                     |
| Ovarian cancer                    |                 | x      |           |        |         |        | 1     | 3                   |
| Pelvic congestion syndrome        |                 |        | x         |        |         |        | 1     | 1                   |
| Pelvic floor musculoskeletal pain | x               |        |           |        |         |        | 1     |                     |
| Psychogenic pain                  | x               |        |           |        |         |        | 1     |                     |
| Spontaneous adhesions             |                 | x      |           |        |         |        | 1     |                     |
| Vaginal cancer                    |                 |        |           |        |         | x      | 1     |                     |

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Paulman PM, Paulman AA, Harrison JD, Nasir LS, Bryan SK. Signs and Symptoms in Family Medicine. Elsevier, Philadelphia, 2012.

Porter RS, Kaplan JL, Homeier BP. The Merck Manual of Patient Symptoms. Merck Research Laboratories, Whitehouse Station, New Jersey, 2008.

Seller RH. Differential Diagnosis of Common Complaints. 5th Edition. Elsevier, Philadelphia, 2007.

| Cause   | Ultrasound Findings  |
|---|--|
| Endometriosis   | Soft tissue masses   |
| Pelvic inflammatory disease   | Adnexal or tubo-ovarian fluid containing lesion (abscess); free fluid                    |
| Ectopic pregnancy   | Adnexal mass; free fluid; lack of intra-uterine pregnancy with a positive pregnancy test |
| Uterine fibroids  | Myometrial masses +/- calcifications   |
| Adenomyosis   | Inner myometrial cystic lesions adjacent to the endometrium                              |
| Adnexal torsion   | Swelling and hyperemia of the ovary; free fluid  |
| Appendicitis  | Swollen appendix; rebound; free fluid  |
| Endometrial cancer  | Thickened endometrial stripe   |
| Cervical stenosis   | Endometrial canal fluid  |
| IUD   | Hyperechoic linear structure – endometrium or myometrium                                 |
| Ruptured ovarian cyst   | Collapsed ovarian cyst remnant in the ovary; free fluid                                  |
| Benign neoplasms  | Ovarian mass; adnexal mass   |
| Diverticulitis  | Free fluid; centrally hypoechoic or anechoic lesion (abscess)                            |
| Inflammatory bowel disease  | Free fluid   |
| Intestinal obstruction  | Distended bowel  |
| Ovarian cancer  | Ovarian mass; free fluid; peritoneal masses  |
| Pelvic congestion syndrome  | Dilated pelvic veins   |
| Vaginal cancer  | Vaginal mass   |
| <b>The following causes of pelvic pain typically have no significant imaging findings</b>   |  |
| Mittelschmerz; urinary tract infection; adhesions (absent bowel obstruction); primary dysmenorrhea; irritable bowel syndrome; pelvic floor musculoskeletal pain; psychogenic pain |  |

## CAUSES OF PAINLESS VAGINAL BLEEDING

| Abnormal Uterine Bleeding       | Goroll & Mulley | Porter | Labus & Kowalak | Eisenberg | Kasper | Gomella | Seller | Total | Collected Cases |
|---------------------------------|-----------------|--------|-----------------|-----------|--------|---------|--------|-------|-----------------|
| Endometrial cancer              | x               | x      | x               | x         |        | x       |        | 5     | 7               |
| Endometrial polyp               | x               |        |                 | x         | x      | x       | x      | 5     | 2               |
| Atrophic vaginitis              | x               | x      | x               | x         |        |         |        | 4     |                 |
| Cervical polyps                 | x               | x      | x               |           |        | x       |        | 4     |                 |
| Hypothyroidism                  | x               | x      |                 |           |        | x       | x      | 4     |                 |
| Stress                          | x               |        |                 |           | x      | x       | x      | 4     |                 |
| Dysfunctional uterine bleeding  |                 | x      |                 |           |        | x       | x      | 3     |                 |
| Endometrial hyperplasia         |                 | x      | x               | x         |        |         |        | 3     | 3               |
| Ovarian cysts (inc. PCOD)       | x               | x      |                 | x         |        |         |        | 3     |                 |
| Androgen                        | x               |        |                 |           |        |         |        | 2     |                 |
| Endometrial atrophy             | x               |        |                 | x         |        |         |        | 2     |                 |
| Hyperprolactinemia              | x               | x      |                 |           |        |         |        | 2     |                 |
| Ovarian tumor (feminizing)      |                 |        | x               | x         |        |         |        | 2     |                 |
| Retained products of conception | x               |        |                 |           |        | x       |        | 2     |                 |
| Cortisol                        | x               |        |                 |           |        |         |        | 1     |                 |
| Drugs                           |                 |        | x               |           |        |         |        | 1     |                 |
| Exercise                        | x               |        |                 |           |        |         |        | 1     |                 |
| Failing pregnancy               | x               |        |                 |           |        |         |        | 1     |                 |
| Perimenopausal state            | x               |        |                 |           |        |         |        | 1     |                 |
| Puberty                         | x               |        |                 |           |        |         |        | 1     |                 |
| Weight loss                     | x               |        |                 |           |        |         |        | 1     |                 |
| Submucosal fibroid              |                 |        |                 |           |        |         |        |       | 1               |

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| Cause   | Ultrasound Findings                             |
|---|---|
| Cervical cancer   | Cervical mass                                   |
| Endometrial polyp   | Focal thickening or mass of endometrial stripe. |
| Cervical polyp  | Mass, typically within the cervical canal.      |
| Endometrial hyperplasia   | Thickened endometrial stripe.                   |
| Ovarian cysts (including PCOD)  | Ovarian cysts.                                  |
| Ovarian tumor (feminizing)  | Ovarian mass.                                   |
| Retained products of conception   | Material in the endometrial canal.              |
| Failing pregnancy   | Material in the endometrial canal.              |
| Uterine fibroids  | Myometrial masses +/- calcifications            |
| <b>The following causes of pelvic pain typically have no significant imaging findings</b>   |   |
| Atrophic vaginitis, hypothyroidism, stress, dysfunctional uterine bleeding, endometrial atrophy, intrinsic or extrinsic causes of excessive androgen, hyperprolactinemia, drugs (including cortisol), exercise, perimenopausal state, puberty, weight loss. |   |