

Diagnosing ovarian cancer

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1 Early-stage ovarian cancer is difficult to diagnose because presenting symptoms are vague and nonspecific

Women with persistent abdominal or pelvic pain, bloating, early satiety, urinary urgency or frequency, or constitutional symptoms require further investigation.¹ Annual screening in asymptomatic women with a pelvic examination, serum assay for cancer antigen 125 (CA 125) or transvaginal ultrasonography does not improve rates of early diagnosis of ovarian cancer or reduce mortality.^{2,3}

2 Transvaginal ultrasonography is the initial imaging modality for women with symptoms of ovarian cancer

Small, asymptomatic simple cysts (less than 3 cm) seen on ultrasonography are almost certainly benign and do not require gynecologic consultation.⁴ Concerning ultrasonography features are outlined in Box 1.

3 Serum tumour markers can be helpful when a complex ovarian cyst is identified

Cancer antigen 125 is elevated (greater than 35 U/mL) in most epithelial ovarian cancers and testing should be ordered in all women with concerning findings on ultrasonography. In women who are premenopausal, CA 125 level may be mildly elevated in benign conditions (e.g., endometriosis or fibroids), and this is accounted for in the risk of malignancy index II (RMI II) scoring system (Box 1). In women who are less than 40 years of age, testing for levels of lactate dehydrogenase, α -fetoprotein and β -human chorionic gonadotropin should also be ordered to identify nonepithelial ovarian cancers that are more common in younger women.⁶

4 The RMI II can be used in primary care to identify women requiring urgent assessment

Risk of malignancy index II incorporates menopausal score (M), ultrasonography score (U) and CA 125 value (Box 1). A score of 200 or more indicates a substantial risk of epithelial ovarian cancer and warrants direct referral to gynecologic oncology.

5 Women with a strong family history of breast, ovarian or colon cancer should be referred to a genetic counsellor

A discussion of screening for hereditary syndromes associated with an increased risk of epithelial ovarian cancer is warranted. Compared with the baseline rate of 1.4% in Canadian women, the average lifetime risk of developing ovarian cancer is 45% for women with *BRCA1* mutations, 12% for *BRCA2* mutations⁷ and up to 24% for Lynch syndrome.⁸

Box 1: Risk of malignancy index II scoring system*

Category	Score
Menopausal score	M = 1 for premenopausal
	M = 4 for postmenopausal
Ultrasonography score	One point each for:
	<ul style="list-style-type: none"> Multilocular cyst Presence of solid components Evidence of intraabdominal metastases Presence of ascites Bilaterality of lesions
CA 125	U = 1 for none or one ultrasonography features
	U = 4 for two or more ultrasonography features
CA 125	Level in serum (U/mL)

Note: CA = cancer antigen, RMI = risk of malignancy index. Adapted from *Journal of Obstetrics and Gynaecology Canada*, Vol. 40, Tien Le and Christopher Giede, No. 230-Initial evaluation and referral guidelines for management of pelvic/ovarian cysts, e223-29, 2018, with permission from Elsevier.⁵

*RMI II score = M \times U \times CA 125. A score of 200 or more warrants direct referral to gynecologic oncology.

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