

S Table 2. Methods of Ovarian Cancer Screening

Screening Tests	Performance			Remarks
	Sensitivity	Specificity	PPV	
Cancer antigen-125 (CA-125) Protein produced by ovary cells as tumor marker		78% ²⁸	3.7% ²⁹	<ul style="list-style-type: none"> CA 125 alone for ovarian cancer screening is not recommended Elevated CA 125 levels can be found in benign gynecological conditions and malignancies other than ovarian cancer. The level of CA 125 may fluctuate during menstrual cycle and smoking status.^{30, 31} The false positive rate of CA 125 for ovarian cancer screening exceeds 40%.³²
Transvaginal ultrasound (TVUS) Ultrasound performed by healthcare professional using a transvaginal ultrasound probe	84.9% ³³	98.2% ³³	5.3% ³³	<ul style="list-style-type: none"> Most adnexal masses detected by TVUS were found to be benign.³³ The false positive rate was 11.9%, with 3.2% surgeries performed in false positive results of those screened with TVUS alone.³²
Screening Strategies	Sensitivity	Specificity	PPV	Remarks
CA 125 + TVUS	89.4% ³³	99.8% ³³	43.3% ³³	<ul style="list-style-type: none"> Fewer repeated investigation and unnecessary intervention compared to CA 125 or TVUS alone.³³ In PLCO Cancer Screening Trial, concurrent testing with CA-125 and TVUS showed no significant difference in the incidence of ovarian cancer between women who were screened and those who were not. Furthermore, there was no notable difference in the proportion of patients diagnosed with advanced disease (stage III or IV), with rates of 77% and 78%, respectively.²⁹ The false-positive rate for concurrent CA125 and TVUS screening were approximately 9.7% across all rounds. Nearly one-third of these false positives underwent diagnostic surgery, with major complications occurring in 15% of cases.³ In the UKCTOCS trial, elevated CA-125 level with subsequent TVUS screening was associated with stage shifting of ovarian cancer, with 39% increase in stage I and II diagnosis and a 10% decrease in stage III and IV diagnosis compared to individuals without screening, but this did not translate into a reduction in ovarian cancer mortality.³⁴
Pelvic Examination Bimanual examination of the uterus and ovaries by healthcare professionals	5.1% ^{4, 35}	99.0% ^{4, 35}	0.4% ^{4, 35}	<ul style="list-style-type: none"> Not recommended due to low sensitivity

PPV = Positive Predictive Value; CA = Cancer Antigen; TVUS = Transvaginal Ultrasound; UKCTOCS = United Kingdom Collaborative Trial of Ovarian Cancer Screening