

OnMedicalGrounds



OMG...I DIDN'T KNOW THAT!



Adnexal Mass Risk Assessments:
Do Algorithms Improve Care?

PODCAST 8

What Is the Lifetime Risk of Developing A Pelvic Mass?



20%

develop a pelvic mass in their lifetime¹



5-10%

will undergo pelvic surgery²



Of those undergoing surgery, **9%–20%**
will ultimately be diagnosed with a malignancy³

1. Mobeen S, Apostol R. Ovarian Cyst. [Updated 2021 Jun 10]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK560541/>
2. Froyman W, et al. *Diagnostics*. 2017;7(2):32.
3. Moore RG, Orr Jr, JW, Sellers JA. Malignancy risk assessment for adnexal ovarian masses. Medscape.org. 2020. <https://www.medscape.org/viewarticle/930267>

What Is the Lifetime Risk of Developing Ovarian Cancer?



1 in 78

women will develop
ovarian cancer

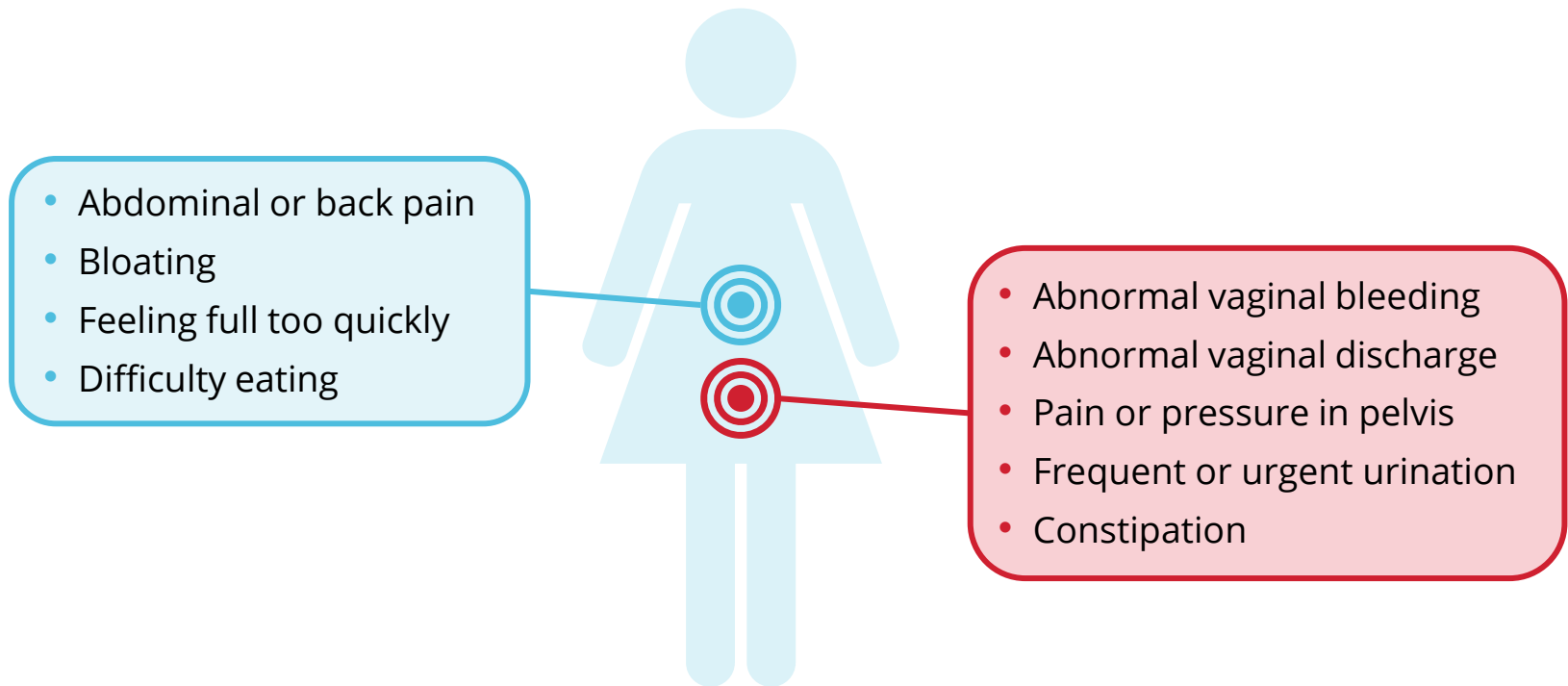


70%

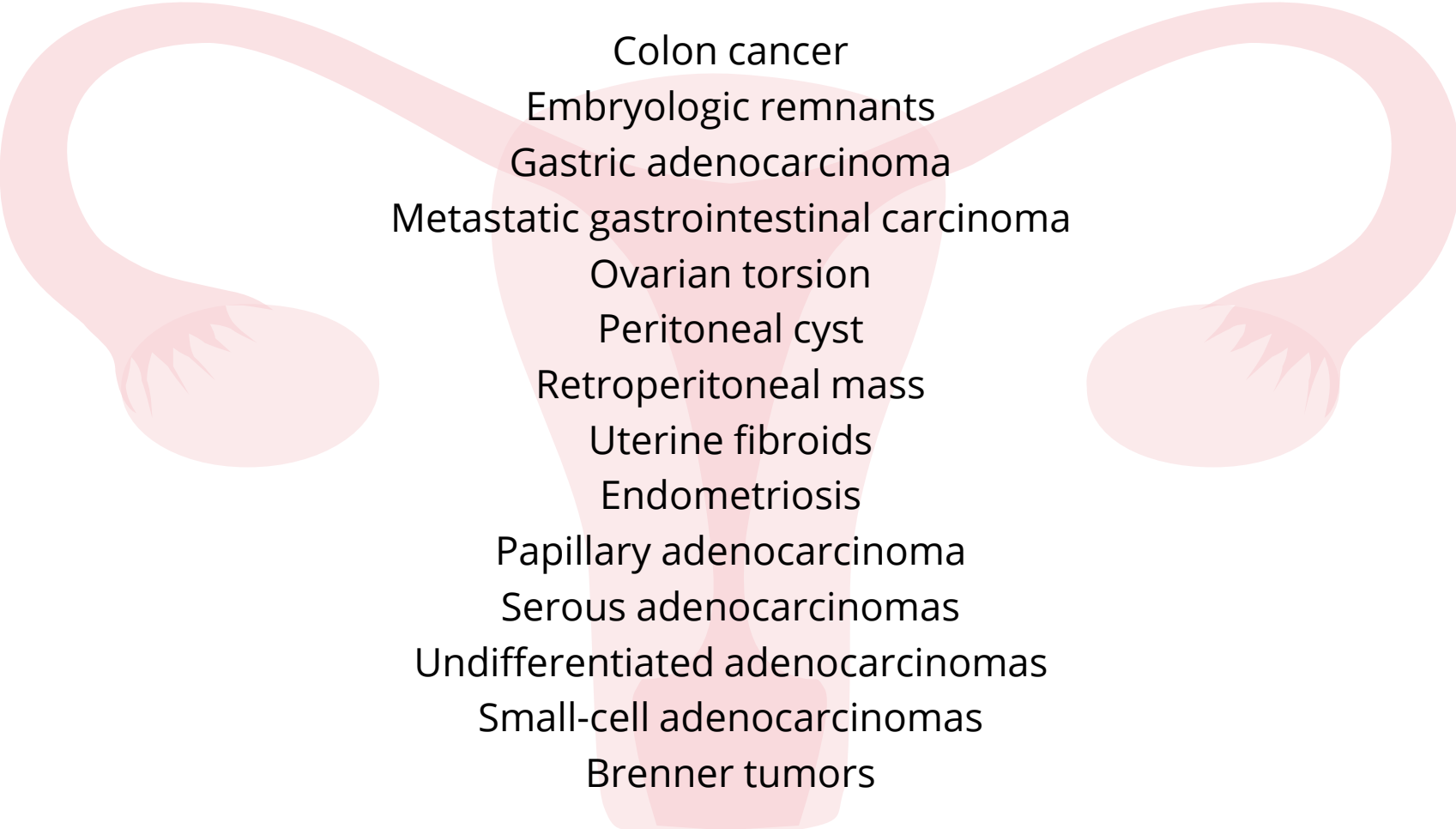
of ovarian cancer is diagnosed
after the age of 55 years
(the median age of onset is 63)

Initial Ovarian Cancer Symptoms Are Nonspecific and Progress Over Time

While nonspecific symptoms can occur in early disease, the majority of cases of ovarian cancer are diagnosed at a late stage as many individuals only experience symptoms in the presence of widespread metastatic disease.



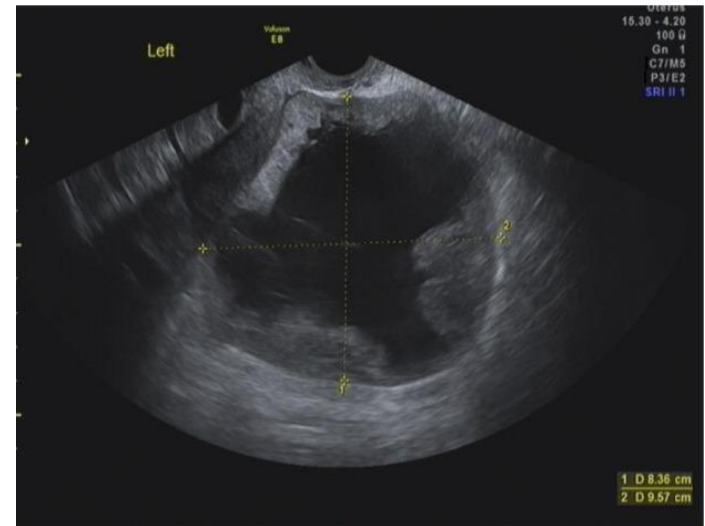
Differential Diagnosis for Ovarian Cancer



Colon cancer
Embryologic remnants
Gastric adenocarcinoma
Metastatic gastrointestinal carcinoma
Ovarian torsion
Peritoneal cyst
Retroperitoneal mass
Uterine fibroids
Endometriosis
Papillary adenocarcinoma
Serous adenocarcinomas
Undifferentiated adenocarcinomas
Small-cell adenocarcinomas
Brenner tumors

American College of Obstetrics and Gynecology Guidelines for Ultrasounds of Pelvic Masses

- Transvaginal ultrasonography is the recommended imaging for suspected or incidentally identified pelvic mass. No alternative imaging modality has demonstrated sufficient superiority to transvaginal ultrasonography.
- Ultrasound findings that raise the level of concern regarding malignancy include > 10 cm size, papillary or solid components, irregularity, ascites, and high color Doppler flow.
- Transabdominal ultrasonography rather than transvaginal ultrasonography is recommended for young, virginal, or prepubertal adolescents.



Transvaginal ultrasound in a 64-year-old woman with pelvic mass. Surgery revealed an adenocarcinoma of the ovary. Smorgick N, Maymon R. *Int J Womens Health*. 2014;6:857–63.

American College of Obstetrics and Gynecology Guidelines for Surgical Interventions



Simple cysts up to 10 cm in diameter on transvaginal ultrasonography are likely benign and may be safely monitored using repeat imaging without surgical intervention, even in postmenopausal patients.



Minimally invasive procedures are preferred route of surgery for presumed benign adnexal masses. Fertility preservation should be a priority in women who have not completed childbearing.



Serum biomarker panels may be used as an alternative to CA 125 level alone in determining the need for referral to gynecologic oncologist when surgery is required.



Surgical intervention for suspected endometriomas or mature ovarian teratomas is warranted if the masses are large, symptomatic, or growing in size on serial imaging or if malignancy is suspected.

American College of Obstetrics and Gynecology Guidelines for Gynecologic Oncology Referrals

ACOG and the Society of Gynecologic Oncology have developed criteria for referring women with an adnexal mass to a gynecologic oncologist.



Postmenopausal women with elevated CA125 or premenopausal women with very elevated CA125

- And/or findings suggestive of malignancy, ascites, nodular or fixed pelvic mass, or evidence of metastasis



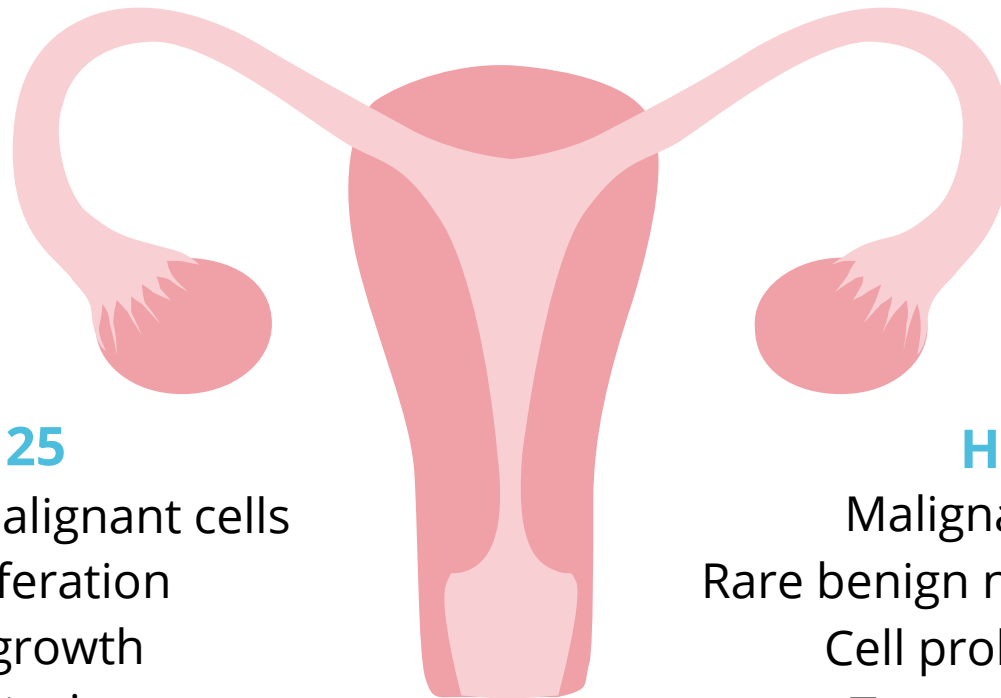
Premenopausal or postmenopausal women with an elevated score on a formal risk assessment test

- Risk of Ovarian Malignancy Algorithm (ROMA)
- Multivariate index assay
- Risk of Malignancy Index (RMI)
- Another U.S.-based scoring system

ROMA Improves Ovarian Cancer Detection and Classifies Risk

	EOC vs. Benign	Premenopausal Women	Early Stages of Malignancy
ROMA	% (95% CI)	% (95% CI)	% (95% CI)
Sensitivity	92.3 (79.1-98.4)	100 (66.4-100)	75 (42.8-94.5)
Specificity	76.0 (68.4-82.6)	74.2 (68.1-79.7)	74.9 (70.3-79.2)
NPV	97.4 (92.7-99.5)	100 (97.9-100)	99.0 (97.0-99.8)

Role of CA125 and HE4 in Normal and Malignant Ovarian Cancer Cells



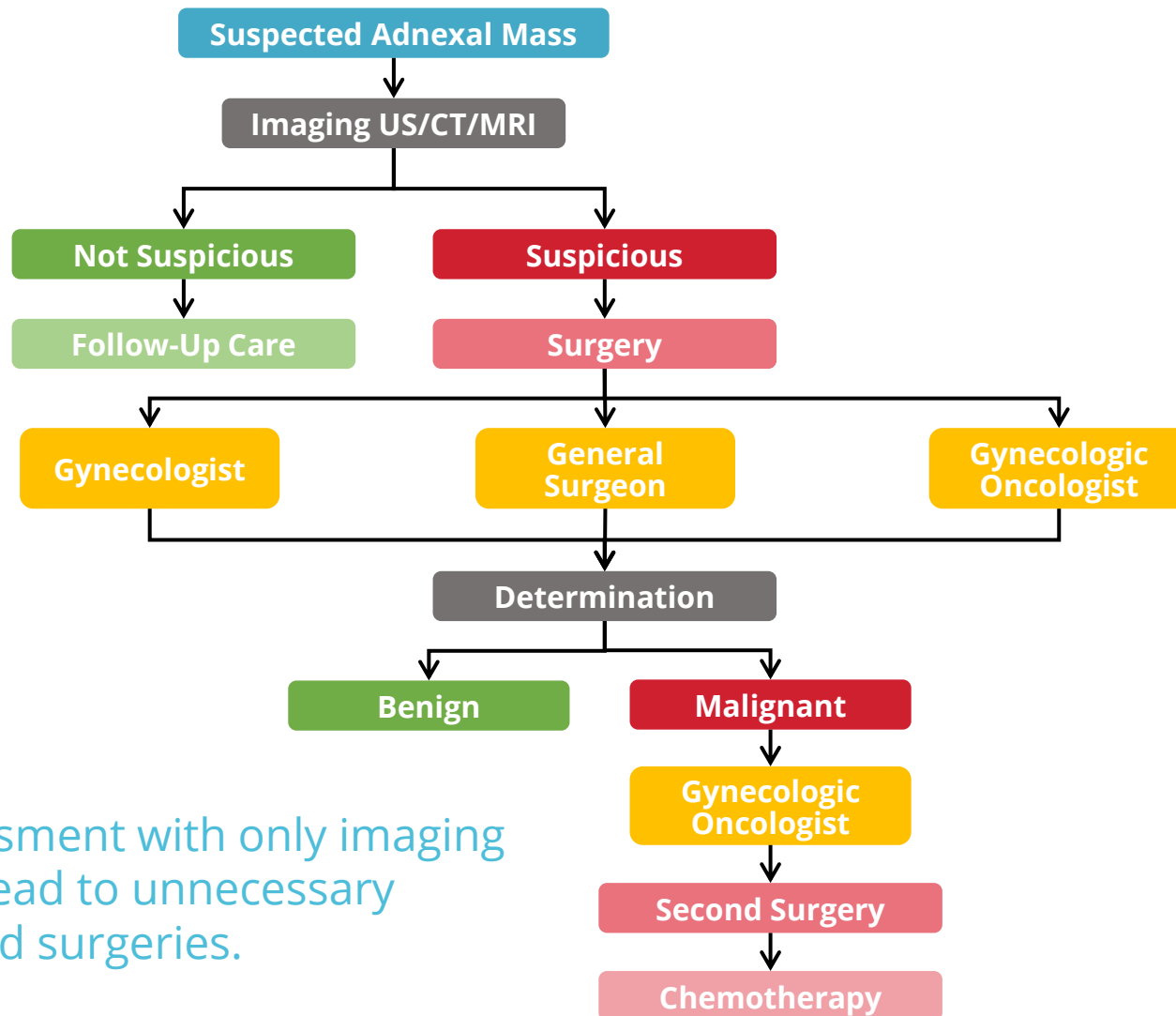
CA125

- Normal and malignant cells
- Cell proliferation
- Tumor growth
- Metastasis
- Inhibition of immune response
- Cell signaling

HE4

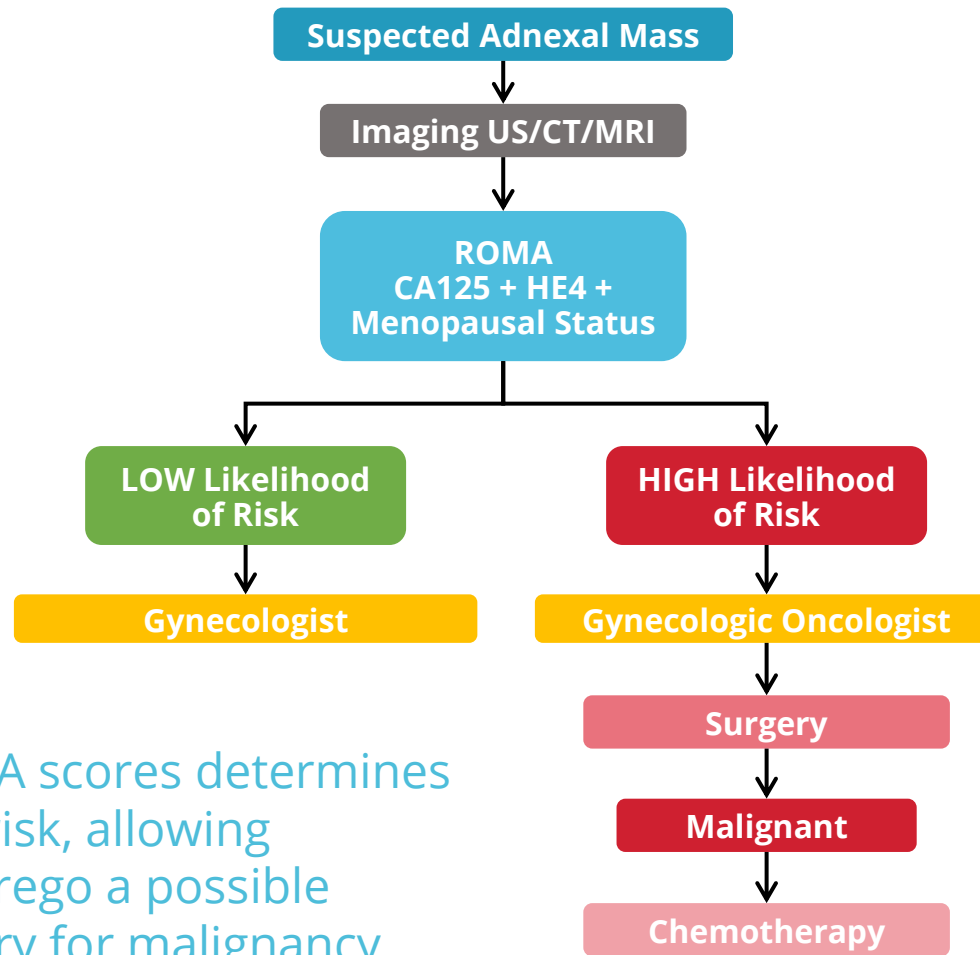
- Malignant cells
- Rare benign neoplastic cells
- Cell proliferation
- Tumor growth
- Metastasis
- Chemoresistance
- Steroid biosynthesis

Current Standard of Care



Assessment with only imaging may lead to unnecessary second surgeries.

Risk of Ovarian Malignancy Assessment (ROMA)



Utilizing ROMA scores determines likelihood of risk, allowing patients to forego a possible second surgery for malignancy.

ROMA Calculator App

- The ROMA Calculator app is free to download on the Apple Store.
- Input CA125, HE4, menopausal status, and assay type.
- Patient's ROMA score is calculated for you.

2:08 ROMA Calculator

UR WILMOT
MEDICINE CANCER INSTITUTE

Risk of Ovarian Malignancy Algorithm

45	2
CA125 VALUE	HE4 VALUE

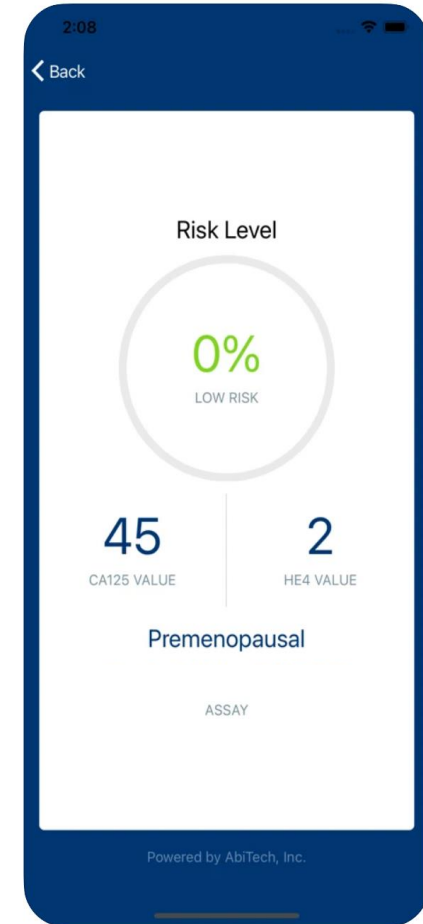
Premenopausal Postmenopausal

ASSAY

CALCULATE

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