Sentara® Health Plans

SENTARA HEALTH PLANS CLINICAL PRACTICE GUIDELINE:

PELVIC MASS PROTOCOL

Guideline History

Date Approved	06/01
Date Revised	05/03,07/03,09/05,11/06,11/08, 10/10,10/12,10/14,11/16 ,11/18 11/20, 11/ 20
Date Reviewed	01/23
Next Review Date	01/25

Indications and timing of the infertility evaluation

Infertility evaluation is indicated for couples who seek help because they have not been able to conceive.
1. Initiate evaluation after 12 months of unprotected and frequent intercourse:
Women under age 35 years without risk factors for infertility
2. Initiate evaluation after six months of unprotected and frequent intercourse:
Women age 35 to 40 years
3. Initiate evaluation upon presentation despite less than six months of unprotected and frequent intercourse:
Women over age 40 years
Women with oligomenorrhea/amenorrhea
Women with a history of chemotherapy, radiation therapy, or advanced stage endometriosis
Women with known or suspected uterine/tubal disease
Women whose male partner has a history of groin or testicular surgery, adult mumps, impotence or other sexual dysfunction, chemotherapy and/or radiation, or a history of subfertility with another partner

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- Women older than 35 years should receive an expedited evaluation and undergo treatment after 6 months of failed attempts to become pregnant or earlier, if clinically indicated. In women older than 40 years, more immediate evaluation and treatment are warranted. If a woman has a condition known to cause infertility, the obstetrician–gynecologist should offer immediate evaluation.

- A comprehensive medical history, including items relevant to the potential etiologies of infertility, should be obtained from the patient and partner, should one exist.

- A targeted physical examination of the female partner should be performed with a focus on vital signs and include a thyroid, breast, and pelvic examination.

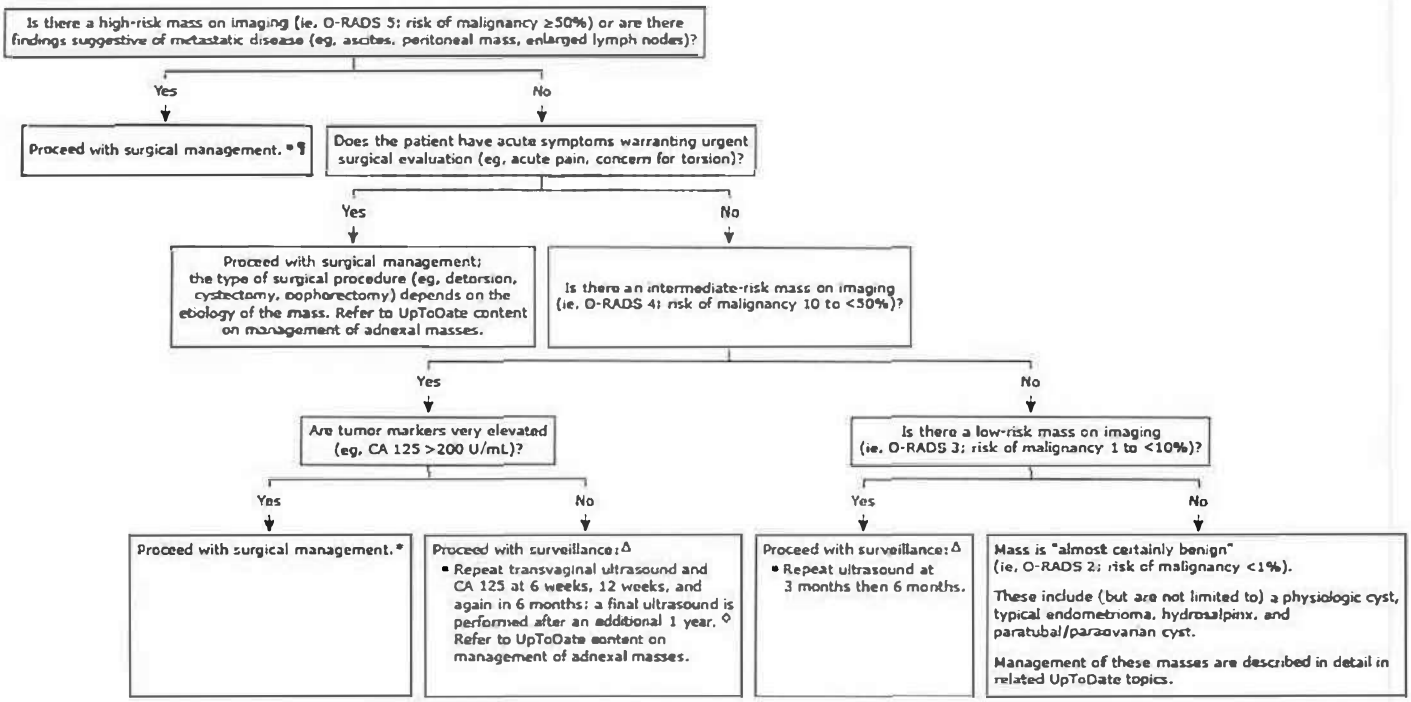
- For the female partner, tests will focus on ovarian reserve, ovulatory function, and structural abnormalities.

- Imaging of the reproductive organs provides valuable information on conditions that affect fertility. Imaging modalities can detect tubal patency and pelvic pathology and assess ovarian reserve.

- A women's health specialist may reasonably obtain the male partner's medical history and order the semen analysis. Alternatively, it is also reasonable to refer all male infertility patients to a health care specialist with expertise in male reproductive medicine.

Background

Nonpregnant, premenopausal patient with an adnexal mass on imaging



This algorithm pertains to average-risk patients. Patients with a hereditary ovarian cancer syndrome (eg, *BRCA* mutation, Lynch syndrome) are managed differently; for more information, refer to UpToDate content on hereditary ovarian cancer syndromes.

Imaging typically includes pelvic ultrasound (transvaginal and transabdominal); for masses with an indeterminant appearance on ultrasound, MRI or CT may be used as a secondary imaging study.

The O-RADS classification system is detailed separately in related UpToDate topics.

O-RADS: Ovarian-Adnexal Reporting and Data System; CA 125: cancer antigen 125; *BRCA*: breast cancer susceptibility genes; MRI: magnetic resonance imaging; CT: computed tomography.

* Surgical management (cystectomy versus oophorectomy) depends on clinical suspicion for malignancy; if malignancy is found, surgical management depends on disease stage and desire for future childbearing.

¶ Tumor markers (eg, CA 125) may be obtained preoperatively to help guide management.

Δ Surgical management may be performed in patients who desire removal of the mass, even in the absence of findings or symptoms suggestive of malignancy.

◇ CA 125 levels are obtained at each ultrasound examination if the initial level is moderately elevated (35 to <200 U/mL) until a trend is established; if it is consistently low or moderately elevated, we discontinue CA 125 testing.

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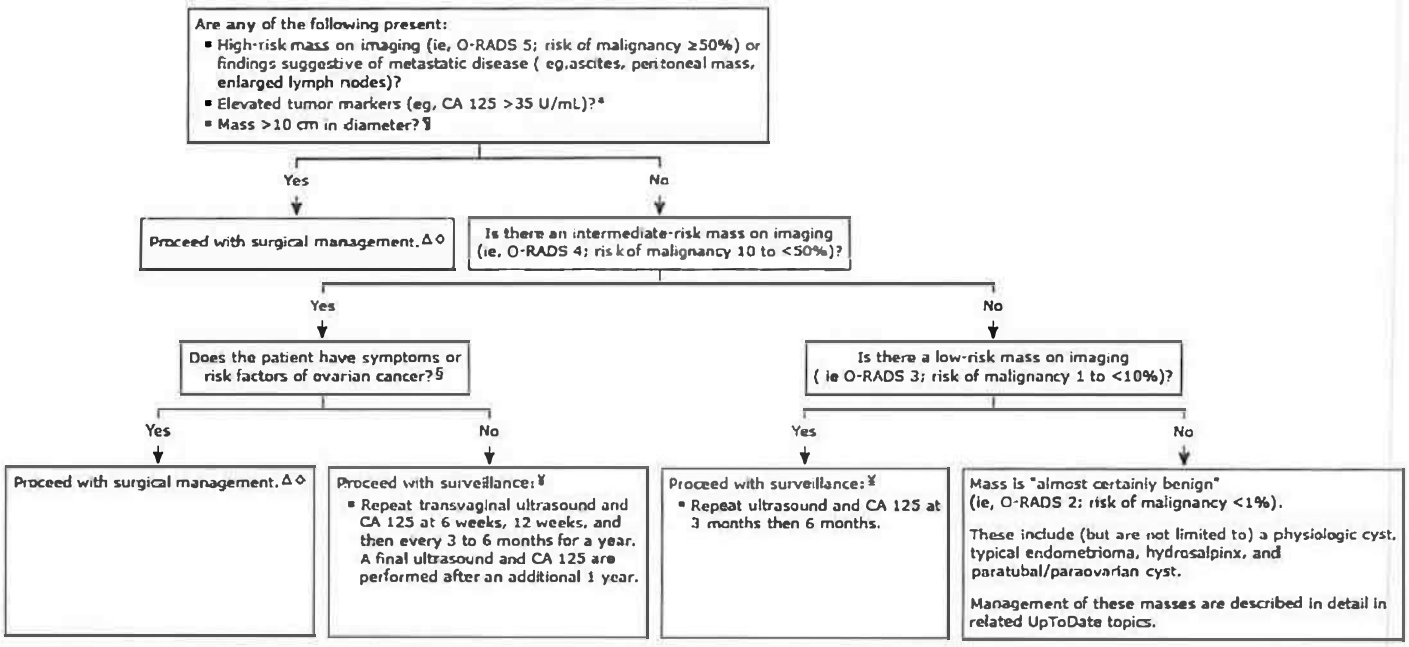
Postmenopausal patient with an adnexal mass on imaging



This algorithm pertains to average-risk patients. Patients with a hereditary ovarian cancer syndrome (eg, *BRCA* mutation, Lynch syndrome) are managed differently; for more information, refer to UpToDate content on hereditary ovarian cancer syndromes.

Imaging typically includes pelvic ultrasound (transvaginal and transabdominal); for masses with an indeterminant appearance on ultrasound, MRI may be used as a secondary imaging study. or the patient may be referred to an ultrasound specialist.

The O-RADS classification system is detailed separately in related UpToDate topics.

O-RADS: Ovarian-Adnexal Reporting and Data System; CA 125: cancer antigen 125; *BRCA*: breast cancer susceptibility genes; MRI: magnetic resonance imaging; HE4: human epididymis protein 4; CEA: carcinoembryonic antigen; CA 19-9: cancer antigen 19-9.

* Other tumor markers may include (but are not limited to) HE4, CEA, or CA 19-9.

¶ We also proceed with surgical management for patients with a mass between 5 and 10 cm diameter if they also have clinically significant symptoms.

Δ Surgical management includes, at a minimum, unilateral salpingo-oophorectomy; a staging procedure is performed if malignancy is found.

◇ Tumor markers (eg, CA 125) are typically obtained preoperatively to help guide management.

§ Ovarian cancer symptoms and risk factors are discussed in detail in related UpToDate topics.

¥ Surgical management may be performed in patients who desire removal of the mass, even in the absence of findings or symptoms suggestive of malignancy.

Graphic 132071 Version 1.0

Evaluation of ovarian masses in children and adolescents without acute severe abdominal pain

History and examination findings	
Patient group	**Potential significance**
All patients	
▪ Ovarian mass that is bilateral, solid, fixed, or irregular	▪ Associated with malignant tumors
▪ Abdominal distension or ascites	▪ Associated with malignant tumors
Neonates and infants:	
▪ Cyst noted on antenatal ultrasonography	▪ Fetal/neonatal cysts usually resolve spontaneously by 6 months of age
Prepubertal children	
▪ Increased height velocity	▪ Onset of puberty (associated with increased incidence of physiologic cysts); rarely may indicate hormone-producing tumors
▪ Early puberty	▪ Ovarian tumor ▪ Central or peripheral precocious puberty
▪ Virilization	▪ Sertoli-Leydig cell tumor
Adolescents	
▪ Menstrual history	▪ May increase/decrease suspicion for: • Physiologic cysts • Endometrioma • Congenital anomaly of the vagina or uterus
▪ Sexual history	▪ May increase/decrease suspicion for: • Pregnancy-associated cysts • Tubo-ovarian abscess (associated with STI)

Referral of women with a pelvic mass to a gynecologic oncologist: ACOG guidelines

Premenopausal women (refer if any are present)
Very elevated CA 125 level*
Ascites
Evidence of abdominal or distant metastases
Postmenopausal women (refer if any are present)
Elevated CA 125 level*
Ascites
Nodular or fixed pelvic mass
Evidence of abdominal or distant metastases

ACOG: American College of Obstetricians and Gynecologists; CA 125: cancer antigen 125.

* These guidelines do not provide a specific value for an elevated (or very elevated) CA 125 level. While the 2002 version used a value of >200 units/mL, this was removed in 2011. Studies evaluating the performance of the 2002 guidelines showed that 70 to 79% of premenopausal and 93 to 94% of postmenopausal patients with ovarian cancer will be captured by this threshold (specificity 70 and 60%, respectively).

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1. *American College of Obstetricians and Gynecologists. Cancer Diagnosis and Management. In: Guidelines for Women's Health Care, 4th ed, 2014.*
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Graphic 55063 Version 9.0

Imaging for all patients

Imaging modality	Findings associated with malignant tumors
Transabdominal ultrasonography	▪ Size ≥8 to 10 cm ▪ Multiple lesions ▪ Bilateral masses ▪ Solid or heterogeneous (solid components >2 cm, thick septations, papillary projections), compared with cystic and homogeneous ▪ Invasive or metastatic compared with well-circumscribed ▪ Calcifications ▪ Ascites
Doppler flow	▪ Increased blood flow (compared with minimal or no blood flow)

Laboratory testing for select patient groups

Patient group	Laboratory tests
Postmenarchal adolescents	▪ Urine beta-hCG
Signs or symptoms of STI	▪ Testing for STI
Increased suspicion for ovarian tumor (eg, based on ultrasonography or associated symptoms)	▪ Panel of ovarian tumor markers (AFP, beta-hCG, LDH, inhibin A and B, CA-125)
Increased suspicion for hormonally active tumor	▪ Estradiol ▪ Testosterone
Patients with ascites	▪ Cytology of ascitic fluid (if fluid is obtained)
Ovarian mass with torsion	▪ Platelet count (thrombocytosis is a nonspecific marker of ovarian malignancy)

is table is meant for use with UpToDate content related to the evaluation of ovarian masses in ldren and adolescents. Refer to UpToDate content for additional details.

: sexually transmitted infection; beta-hCG: beta-human chorionic gonadotropin; AFP: alpha-oprotein; LDH: lactate dehydrogenase; CA-125: cancer antigen 125.

Risk factors for ovarian cancer

	Relative risk	Lifetime probability (%)[1]
General population	1.0	1.3[1]
***BRCA1* gene mutation**		35 to 46[2,3]
***BRCA2* gene mutation**		13 to 23[2,3]
Lynch syndrome (hereditary nonpolyposis colon cancer)		3 to 14[4,5]
Other gene mutations		
BRIP1		5.8[6]
RAD51C		5.2[7]
RAD51D		12[7]
Family history of ovarian or fallopian tube cancer (with negative testing for a familial ovarian cancer syndrome)	Uncertain[8]	
Infertility	2.67[9]	
Endometriosis (increase in risk of clear cell, endometrioid, or low-grade serous carcinomas)	2.04 to 3.05[10]	
Cigarette smoking (increase in risk of mucinous carcinoma)	2.1[11]	
Intrauterine device	0.68[12]	
Past use of oral contraceptives	0.73[13]	

Past breastfeeding (for >12 months)	0.72[14]	
Tubal ligation	0.69[15]	
Previous pregnancy	0.71[16]	

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1. *Cancer Stat Facts: Ovarian Cancer. National Cancer Institute. https://seer.cancer.gov/statfacts/html/ovary.html. Accessed February 11, 2019.*
2. *Chen S, Parmigiani G. Meta-analysis of BRCA1 and BRCA2 penetrance. J Clin Oncol 2007; 25:1329.*
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- Transabdominal ultrasonography rather than transvaginal ultrasonography is recommended for young, virginal, or prepubertal adolescents.

- 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. If these masses are managed expectantly, follow-up surveillance is warranted.

- Most adnexal masses in pregnancy appear to have a low risk of malignancy or acute complications and may be managed expectantly.

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