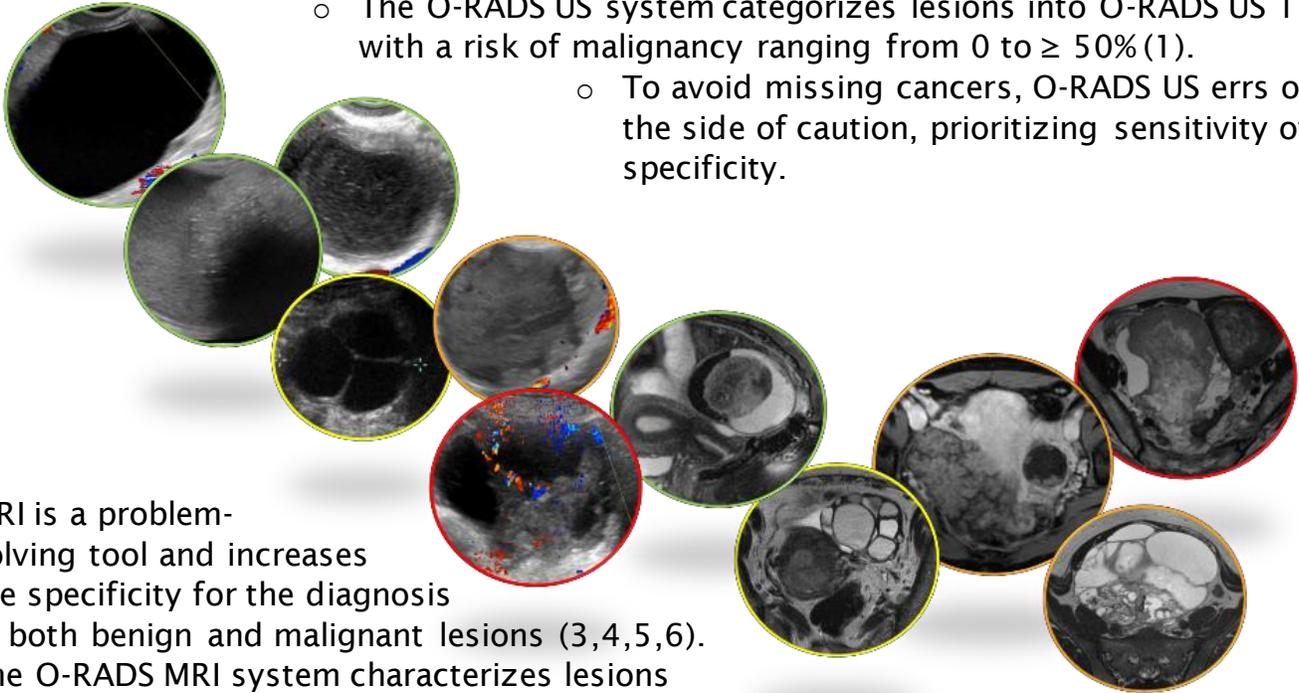


# O-RADS US and O-RADS MRI

## Understanding Their Complementary Roles

- US is the first-line imaging modality for adnexal lesion assessment. The O-RADS system triages care to general gynecologists or gynecologic oncologists and makes use of the US specialist or MRI when there is a need for more accurate imaging risk assessment (1,2).
  - The O-RADS US system categorizes lesions into O-RADS US 1-5 with a risk of malignancy ranging from 0 to  $\geq 50\%$  (1).
    - To avoid missing cancers, O-RADS US errs on the side of caution, prioritizing sensitivity over specificity.



- MRI is a problem-solving tool and increases the specificity for the diagnosis of both benign and malignant lesions (3,4,5,6).
- The O-RADS MRI system characterizes lesions into O-RADS MRI 1-5 with a risk of malignancy ranging from 0 to  $\geq 90\%$  (2).

### Role of the Ultrasound Specialist

- In published reports, physicians with experience in US of adnexal lesions demonstrate high accuracy in characterization of adnexal lesions (7,8,9). Not only are they more familiar with the appearance of adnexal pathologies, they are also more likely to encourage high quality US.
- In O-RADS US, the US specialist is a “physician whose practice includes a focus on ultrasound assessment of adnexal lesions”. There are “no mandated requirements or guidelines” although clinical experience, participation in quality assurance programs and continued medical education as per local guidelines are emphasized (1).
- O-RADS US makes use of this expertise with the intent of decreasing unnecessary follow-up exams, and in some cases, the need for MRI.

### Role of MRI

- MRI with contrast can more accurately characterize fluid/solid component and predict pathologic subtype, when this is required for clinical management.
- MRI can increase the specificity for the diagnosis for malignancy, due to its ability to detect enhancing solid tissue (3,4,5,6).
- MRI can exclude malignancy when there is no enhancing solid tissue with a very high negative predictive value of 99% (3).
- Up to 9% of lesions considered adnexal on US were found to be non-adnexal at surgery. MRI can diagnosis the origin of the lesion with an accuracy of 93%.
- Recommendation of MRI has the potential of reducing the number of surgical evaluations of benign cysts by 90% (10).

## Ultrasound specialists and MRI can be helpful in the following scenarios:

- *US specialists*
  - O-RADS US 3 and 4
- *MRI*
  - O-RADS US 0
    - US evaluation is technically inadequate, AND repeat US is unlikely to result in sufficient characterization.
  - O-RADS US 3 and 4
  - Special scenarios – O-RADS US 3, 4, 5
    - Patient is a poor surgical candidate, and if the MRI can downgrade the lesion, watchful waiting may be possible.
    - Patient is being considered for fertility sparing surgery, as MRI can characterize a lesion as a borderline or low-grade tumor and therefore allow for limited resection.

## For practice cases that started with US and proceeded to MRI:

- Please see the O-RADS MRI e-learning modules: TEACHING CASES

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