



O-RADS US v2022 **Technical Guidance**

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SPECIFICATIONS FOR ULTRASOUND EXAMINATIONS

Recommended equipment	<ul style="list-style-type: none">• US machine with transabdominal and transvaginal probes, color Doppler and cine clip capabilities
Required images	<ul style="list-style-type: none">• Gray-scale images of the ovary in orthogonal planes• Color or power Doppler images of any ovarian/adnexal lesion
Suggested images	<ul style="list-style-type: none">• Orthogonal clips are strongly encouraged

Lesion Characterization and Technical Factors

1. Equipment monitoring should be in accordance with the ACR–AAPM Technical Standard for Diagnostic Medical Physics Performance Monitoring of Real Time Ultrasound Equipment¹.
2. Transducer selection should be the highest frequency that allows adequate depth penetration. When possible, transvaginal scanning (TVUS) is preferred over transabdominal scanning alone due to improved resolution as well as avoidance of bowel gas and soft tissue attenuation which may limit transabdominal visualization. When bowel gas is a factor with TVUS, exerting gentle pressure between the tip of the transvaginal probe and a hand placed on the patient’s anterior hemipelvis may help displace intervening bowel to better visualize the ovary.
3. Gain settings, focal zone selections, and fields of view should be optimized to obtain high-quality images of an ovary or lesion. Cine clips of a lesion in orthogonal planes through its entirety are recommended and strongly encouraged when real-time interpreter scanning is not feasible.
4. Spatial compounding, an US technique that uses information from multiple angles of insonation, may reduce or eliminate shadowing seen with conventional sonography. Adjustment (when possible) may be necessary to detect shadowing artifacts.
5. The size of each lesion should be measured in 3 orthogonal planes. If calipers obscure lesion assessment, images of a lesion should be obtained with and without calipers. To distinguish a focal wall or septal irregularity from a solid component/papillary projection, the height of protrusion into the cyst cavity should be measured. For interval change, the average linear dimension ($[(\text{Length} + \text{Width} + \text{Height})/3]$) should be used.
6. One or more color or power Doppler images of a lesion are recommended to assess for internal vascularity. Optimization of color Doppler settings may be accomplished by decreasing the Doppler box size to the targeted region of interest and adjusting the color scale by lowering the scale until color “flash” is achieved, then increasing by one.
7. Sliding maneuvers, documented using cine clips, can be helpful in confirming lesion location as intraovarian (moves with the ovary) or extra-ovarian (moves separately from the ovary). Sliding maneuvers also assist in the detection of deep penetrating endometriosis, when applicable.
8. Jiggling a lesion with the transducer or decubitus positioning may help determine if internal echoes are fixed or mobile.
9. Required images and documentation should be in accordance with ACR- ACOG–AIUM–SPR–SRU Practice Parameters for Performance of US of the Female Pelvis².
10. Interpretation of ultrasound findings should always be correlated with clinical symptoms, lab values and prior imaging studies.

References:

1. American College of Radiology. ACR–AAPM technical standard for diagnostic medical physics performance monitoring of real time ultrasound equipment. Available at: <https://www.acr.org/-/media/ACR/Files/Practice-Parameters/US-Equip.pdf?la=en>. Accessed July 30, 2023
2. ACR-ACOG-AIUM-SPR-SRU Practice Parameters of the Performance of Ultrasound of the Female Pelvis. Available at: <https://www.acr.org/-/media/ACR/Files/Practice-Parameters/US-Pelvis.pdf>. Accessed August 23, 2023