MEDICAL PRACTICE MANAGEMENT

A Guide to Adnexal Mass Ultrasound Terminology

Adnexal mass ultrasound terminology varies among practitioners. Learn why a few organizations are working to change that.

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Ultrasound is making headway as the imaging tool of choice for evaluating adnexal masses, and many clinical organizations are working to standardize adnexal mass ultrasound terminology. But why does it sometimes feel like clinicians are speaking different languages when it comes to reporting on these masses?

Currently, several lexicons are used to describe adnexal masses in North America. Two common systems are the International Ovarian Tumour Analysis (IOTA) guidelines and the Ovarian-Adnexal Reporting and Data System (O-RADS). The goal for both systems is to improve communication, reduce ambiguity, predict the risk of malignancy and formulate evidence-based algorithms for clinical management.

Common Adnexal Mass Ultrasound Terminology

A common language for describing adnexal masses is essential. Clinicians such as

A common language for describing adnexal masses is essential. Clinicians such as pediatricians, emergency physicians, radiologists and oncologists all rely on ultrasound reports while counseling their patients and assessing treatment options.

Using clear and standardized language can also benefit your patients. Knowing when a mass is normal or abnormal at an early stage reduces the number of unnecessary surgeries, and helps triage patients to other care centers for appropriate treatment.

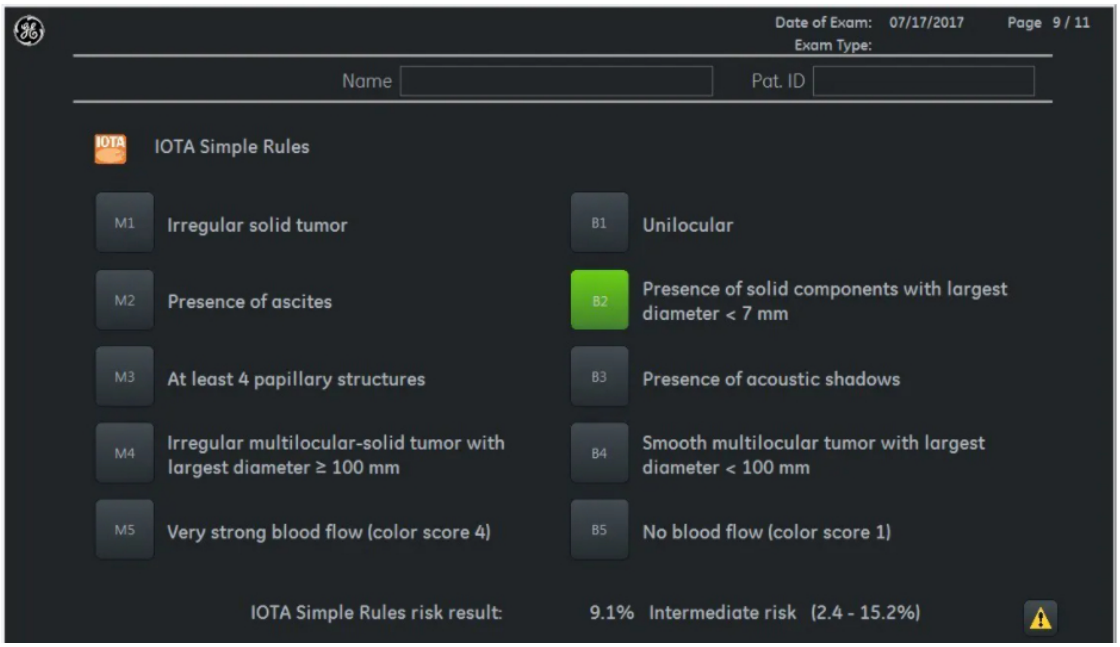
Even common terms should be examined to make sure we're all speaking the same language. The journal Radiology suggest that the term "follicle" should replace "cyst," for instance, since "cyst" indicates disease in most organs but refers to a normal, fluid-filled structure in the ovaries.

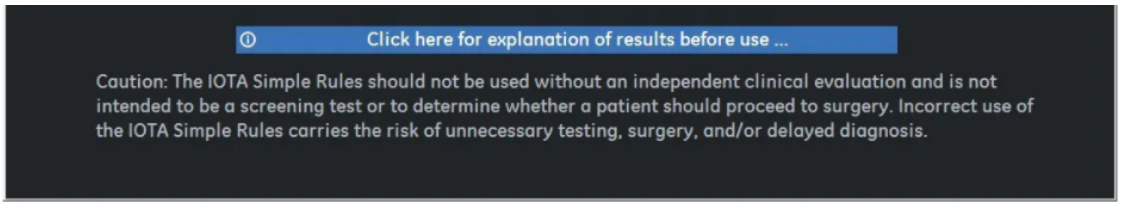
IOTA Guidelines

The European IOTA Group first published its new list of standardized terms for adnexal lesions in 2000. The word "lesion" was deliberately chosen to imply an abnormality. This consensus opinion allowed a new era of research using B-mode imaging and color Doppler examination of adnexal lesions to blossom.

Before the IOTA guidelines, previous adnexal lesion studies had reached differing conclusions using similar algorithms — in part because of differences in the terminology they used. IOTA identified six categories of adnexal lesions based on a qualitative description of their solidity and number of chambers. These categories apply to both the ovaries and the fallopian tubes. IOTA went on to define morphologic features ranging from papillary projections to the presence of fluid in the pouch of Douglas.

After standardizing clinical terminology throughout 24 centers in 10 countries and collecting ultrasound data from almost 6,000 women, IOTA developed the "Simple Rules" and ADNEX model. These models predict a lesion's cancer potential, from benign to metastatic, and are now a standard tool onboard some ultrasound machines.





IOTA Simple Rules on Voluson E10 system

GE Healthcare

Simple ultrasound-based features for the diagnosis of ovarian cancer.

Oncology

Ultrasound Obstet Gynecol 2008;31:681-90

Features for predicting a malignant tumor (M-features)	
M1	Irregular solid tumor
M2	Presence of ascites
M3	≥ 4 papillary structures
M4	Irregular multilocular solid tumor with largest diameter ≥ 100 mm
M5	Very strong blood flow (color score 4)

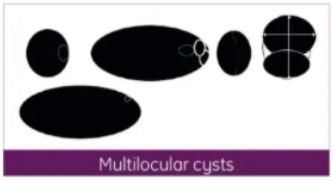
Features for predicting a benign tumor (B-features)	
B1	Unilocular
B2	Presence of solid components where the largest solid component has a diameter < 7mm
B3	Presence of acoustic shadows
B4	Smooth multilocular tumor with largest diameter < 100 mm
B5	No blood flow (color score 1)

- **If one or more M-features apply** in the absence of a B-feature, the mass is classified as malignant.
- **If one or more B-features apply** in the absence of a M-feature, the mass is classified as benign.
- **If both M-features and B-features apply,** the mass cannot be classified.
- **If no features are present,** the mass cannot be classified.

IOTA terms

Ultrasound Obstet Gynecol 2000;16:500-5

Unilocular cysts



Multilocular cysts

Unilocular-solid cysts

Multilocular-solid cysts

Solid tumors

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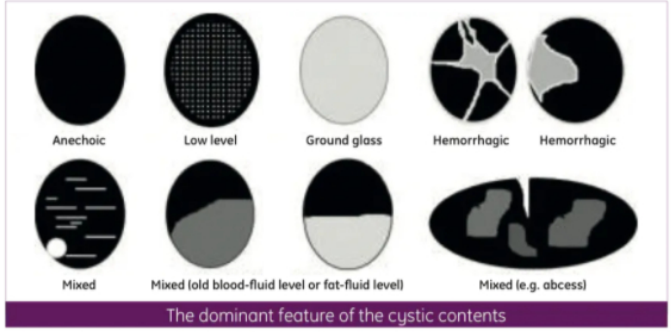

The dominant feature of the cystic contents

DOC1145595 300-12-U016E

IOTA terminology

O-RADS Guidelines

One alternative to the IOTA guidelines is the American College of Radiology (ACR) O-RADS lexicon, developed in 2015. The ACR argues that adoption of the IOTA models has been limited in North America, giving rise to alternatives. O-RADS was designed as a universal vocabulary to improve communication between doctors doing the imaging and doctors applying the results in a clinical situation.

A key part of creating a common lexicon, the ACR argues, is retiring terms that may be vague or misleading to patients. One of the previously common descriptors that O-RADS discourages, for example, is "complex."

Who Uses Adnexal Mass Ultrasound Guidelines?

In North America, sonographers perform the majority of pelvic ultrasounds, with radiologists, gynecologists and physicians reviewing the images and dictating the final report. The American Institute of Ultrasound in Medicine (AIUM) offers voluntary certification to these practitioners demonstrating they have met national standards in ultrasound, but focuses on requiring measurements and rigorous documentation of adnexal masses instead of offering its own list of terms.

A common medical language is key for avoiding misunderstandings and confusion. Learning a common ultrasound lexicon can help providers be a part of a unified conversation about women's health.

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