

LI-RADS® CEUS Nonradiation TRA v2024

This lecture provides an in-depth review of the LI-RADS® CEUS Nonradiation Treatment Response Algorithm (TRA) v2024, focusing on standardized assessment of tumor viability following locoregional therapy (LRT) or surgical resection for hepatocellular carcinoma (HCC) and select non-HCC malignancies. In addition to imaging criteria, the session will introduce the broader framework of CEUS TRA as a comprehensive system for acquisition, interpretation, reporting, and data collection. Emphasis will be placed on multidisciplinary collaboration, appropriate reporting practices, and the evolving nature of LI-RADS.

Learning Objectives:

By the end of this lecture, participants will be able to:

1. Understand the scope and purpose of CEUS LI-RADS TRA.
 2. Describe principles of tumor viability assessment using CEUS.
 3. Differentiate intralesional and perilesional enhancement patterns.
 4. Apply standardized LR TR categories (Nonviable, Equivocal, Viable).
 5. Recognize the importance of multidisciplinary decision-making.
 6. Incorporate best practices for reporting and communication.
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I. Overview of CEUS LI-RADS TRA: Definition and scope of CEUS Treatment Response Assessment (TRA).

II. Introduction to CEUS Treatment Response Assessment: Advantages of CEUS as a real-time, nonradiation imaging modality, clinical need for accurate and reproducible post-treatment evaluation and overview of TRA workflow.

III. Principles of Tumor Viability Assessment: Definition of viable vs nonviable tumor after treatment, distinction between intralesional and perilesional enhancement, biological basis of post-treatment imaging findings.

IV. Intralesional vs Perilesional Enhancement Criteria

V. Beyond Imaging: Multifactorial Decision-Making: Limitations of imaging alone in guiding treatment and key clinical factors influencing management decisions

VI. Reporting Considerations and Best Practices: Use of standardized LI-RADS TRA terminology.

Conclusion and Discussion: Summary of CEUS TRA framework and clinical impact, importance of standardization and collaboration, future directions and ongoing evolution of LI-RADS.