EU■TIRADS (European Thyroid Imaging Reporting and Data System)

EU■TIRADS is a reporting system designed by the European Thyroid Association for ultrasound assessment of thyroid nodules and stratification of malignancy risk and the need for fine■needle aspiration (FNA). The system is based on a validated French model and was published in 2017.

Ultrasound Features Assessed

- Echogenicity
  - Anechoic / spongiform (benign)
  - Isoechoic / hyperechoic (low risk)
  - Mildly hypoechoic (intermediate risk)
  - Markedly hypoechoic (high risk)

- Shape
  - Oval
  - Non■oval (high risk)

- Margin
  - Smooth
  - Irregular (high risk)

- Microcalcifications (high risk)

EU■TIRADS Classification

EU■TIRADS 1: No nodule
EU■TIRADS 2: Benign
EU■TIRADS 3: Low risk (oval, smooth margin, iso/hyperechoic, no high■risk features)
EU■TIRADS 4: Intermediate risk (oval, smooth margin, mildly hypoechoic, no high■risk features)
EU■TIRADS 5: High risk (any of: non■oval shape, irregular margin, microcalcifications, marked hypoechogenicity)

FNA Recommendations

EU■TIRADS 2: No FNA (unless therapeutic or compressive symptoms)
EU■TIRADS 3: FNA if > 20 mm
EU■TIRADS 4: FNA if > 15 mm
EU■TIRADS 5: FNA if > 10 mm; < 10 mm consider FNA or active surveillance

Regardless of ultrasound appearance, a hyperfunctioning (“hot”) nodule on scintigraphy is almost always benign and does not require biopsy.

Risk of Malignancy

EU■TIRADS 1: Not applicable
EU■TIRADS 2: 0%
EU■TIRADS 3: 2–4%
EU■TIRADS 4: 6–17%
EU■TIRADS 5: 26–87%

Comparison with Other Systems

EU■TIRADS was introduced after K■TIRADS (2016) and alongside ACR TI■RADS (2017). Comparative studies show sensitivity of 83–86% and specificity of 32–79%. The unnecessary FNA rate is approximately 25%. Interobserver agreement for biopsy decisions is good (Cohen’s $\kappa \approx 0.68$).