

## APPENDIX

**American Thyroid Association (ATA), British Thyroid Association (BTA) and Thyroid Imaging Reporting and Data System (TIRADS) ultrasonography sonographic patterns**

<b>ATA classification</b>	
Benign	Purely cystic nodules (no solid component)
Very low suspicion	Spongiform or partially cystic nodules without any of the sonographic features described in low, intermediate or high suspicion patterns
Low suspicion	Isoechoic or hyperechoic solid nodule or partially cystic nodule with eccentric solid areas, without microcalcification, irregular margin or extrathyroidal extension (ETE), or taller-than-wide shape
Intermediate suspicion	Hypoechoic solid nodule with smooth margins without microcalcifications, ETE or taller-than-wide shape
High suspicion	Solid hypoechoic nodule or solid hypoechoic component of a partially cystic nodule with one or more of the following features: irregular margins (infiltrative, microlobulated), microcalcifications, taller-than-wide shape, rim calcifications with small extrusive soft tissue component, evidence of ETE
<b>BTA classification</b>	
U1 (normal)	Normal thyroid gland
U2 (benign)	<ul style="list-style-type: none"> <li>• Spongiform or honeycomb appearance</li> <li>• Purely cystic nodule and nodules with a cystic component containing colloid (hyperechoic foci with a 'ring-down' sign)</li> <li>• Egg-shell type calcification around the periphery of a nodule</li> <li>• Isoechoic or (mildly) hyperechoic nodule, typically with a surrounding hypoechoic halo</li> <li>• Peripheral vascularity on colour flow or power Doppler</li> </ul>
U3 (intermediate/equivocal)	<ul style="list-style-type: none"> <li>• Homogenous solid nodule with marked hyperechogenicity and halo</li> <li>• Possible hypoechoic nodule with presence of equivocal echogenic foci or cystic change, or presence of mixed or central vascularity</li> </ul>
U4 (suspicious)	<ul style="list-style-type: none"> <li>• Solid, hypoechoic or very hypoechoic nodule</li> <li>• Solid, hypoechoic nodule with disrupted peripheral calcification or lobulated outline</li> </ul>
U5 (malignant)	Solid, hypoechoic, lobulated/irregular outline with microcalcification, globular calcification, intranodular vascularity taller-than-wide shape or characteristics associated with lymphadenopathy
<b>TIRADS classification</b>	
TIRADS 3	No suspicious ultrasonography feature*
TIRADS 4A	One suspicious ultrasonography feature
TIRADS 4B	Two suspicious ultrasonography features
TIRADS 4C	Three or four suspicious ultrasonography features
TIRADS 5	Five suspicious ultrasonography features

\*Suspicious features are solid nodule, hypoechogenicity or marked hypoechogenicity, microlobulated or irregular margins, microcalcifications or mixed calcifications and a taller-than-wide shape.