Thyroid Ultrasound Sample Report

Please note this report is an example only. There are many potential variations – the IMPRESSION section will provide risk stratification and recommendations.

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DIAGNOSTICS

*******FINAL REPORT********

CLINICAL HISTORY: Bulky thyroid. Query thyroid nodule.

COMPARISON: None.

FINDINGS:

Right thyroid lobe measures 5.1 x 1.7 x 1.4 cm.

Left thyroid lobe measures 4.9 x 1.4 x 1.7 cm.

Thyroid isthmus thickness measures 0.2 cm.

NODULE #1

Location: Right upper lobe

Size: 21 x 12 x 6 mm

Composition: Solid or almost completely solid (2)

Echogenicity: Hypoechoic (2)

Shape: Wider-than-tall (0)

Margins: Smooth (0)

Echogenic foci: None (0)

ACR TI-RADS Score: 4

ACR TI-RADS Risk Category: TR4

Background thyroid parenchyma demonstrates heterogeneous echogenicity but normal vascularity.

IMPRESSION:

Right upper lobe 21 mm nodule meets ACR TI-RADS imaging criteria for TR4. FNA of this nodule is recommended.

Source: Tessler FN. ACR Thyroid Imaging, Reporting and Data System (TI-RADS): White Paper of the ACR TI-RADS Committee. *J Am Coll Radiol.* 2017

THYROID NODULE RISK STRATIFICATION

Standardized recommendations for the management of thyroid nodules.

Rev. 02/2019

Mayfair Diagnostics is in compliance with the American College of Radiology's Thyroid Imaging, Reporting and Data System (TI-RADS) for the classification and evaluation of thyroid nodules.

A LOOK AT TI-RADS

American College of Radiology Thyroid Imaging, Reporting and Data System

RISK STRATIFICATION

Thyroid nodules are extremely common, but the incidence of malignancy in them is relatively low, ranging between 1.6 and 12 percent.

The following is a list of accepted indications for a thyroid ultrasound:

- Evaluation of clinically suspected thyroid nodule, mass, or enlargement.

- Follow up of known thyroid nodules as clinically required or as recommended by prior radiology report.

- Screen patients with high risk of thyroid cancer, such as a personal history of thyroid cancer, a family history of thyroid cancer or Multiple Endocrine Neoplasia (MEN) type 2, or a history of significant radiation to the neck.

- Surveillance of patients with known thyroid cancer.

- Unexplained cervical lymphadenopathy.

- Preoperative planning.

Please note: Routine screening of individuals who are not at high risk of thyroid cancer does not reduce morbidity or mortality and is not indicated.

Previously the terms used to describe thyroid nodules were poorly defined and inconsistently applied and a definitive diagnosis was commonly made through fine-needle aspiration (FNA) biopsy or surgery. There exists a need for thyroid ultrasound reports to consistently characterize nodules by their features, assess the risk of malignancy, and guide clinical management.

While several risk stratification systems exist, none have been widely adopted in Canada or the United States; although a modified version of the American Thyroid Association (ATA) guidelines has been used in Calgary.

In order to provide clear and consistent reporting, improve communications with referring physicians,

audit and monitor outcomes, and ensure peer review and quality assurance data, Mayfair Diagnostics has implemented the American College of Radiology (ACR) Thyroid Imaging, Reporting and Data System (TI-RADS) for thyroid nodules.

BENEFITS OF ACR TI-RADS

While the ATA's guidelines for risk stratifications have been used in Calgary, Mayfair Diagnostics did a comparative analysis of the different systems and has opted to report based on the ACR TI-RADS system. This system is less sensitive, but more specific and more accurate compared to the other systems. It also has the following benefits:

- Classification of *all* nodules.

- Decreased number of total nodules requiring biopsy or follow-up.

- Lower number of benign nodules requiring biopsy or follow-up.

- Provision of adequate information on reports to apply other risk classification.

Special note in regards to sensitivity: The majority of the cancers for which ACR TI-RADS recommends no biopsy will still have a follow-up recommendation. This is important because biologically significant cancers will almost certainly declare themselves during the course of follow-up (up to five years).

The goal of ACR TI-RADS is to balance the benefit of identifying clinically important cancers against the risk and cost of subjecting patients with benign nodules or indolent cancers to biopsy and treatment. As such, the following flow chart and lexicon is used to standardize language and provide a set of well-defined sonographic features that can be applied to every lesion.

ACR TI-RADS Sonographic Features

COMPOSITION
(Choose 1)

Cystic or almost completely cystic	0 points
Spongiform	0 points
Mixed cystic and solid	1 point
Solid or almost completely solid	2 points

ECHOGENICITY
(Choose 1)

Anechoic	0 points
Hyperechoic or isoechoic	1 point
Hypoechoic	2 points
Very hypoechoic	3 points

SHAPE
(Choose 1)

Wider-than-tall	0 points
Taller-than-wide	3 points

MARGIN
(Choose 1)

Smooth	0 points
Ill-defined	0 points
Lobulated or irregular	2 points
Extra-thyroidal extension	3 points

ECHOGENIC FOCI
(Choose all that apply)

None or large comet-tail artifacts	0 points
Macrocalcifications	1 point
Peripheral (rim) calcifications	2 points
Punctate echogenic foci	3 points

Add Points From All Categories to Determine TI-RADS Level

0 points	2 points	3 points	4-6 points	7 points or more
TR1 Benign No FNA	**TR2** Not Suspicious No FNA	**TR3** Mildly Suspicious FNA if ≥ 2.5 cm Follow if ≥ 1.5 cm	**TR4** Moderately Suspicious FNA if ≥ 1.5 cm Follow if ≥ 1 cm	**TR5** Highly Suspicious FNA if ≥ 1 cm Follow if ≥ 0.5 cm

Source: Tessler FN. ACR Thyroid Imaging, Reporting and Data System (TI-RADS): White Paper of the ACR TI-RADS Committee. *J Am Coll Radiol.* 2017