About one-half the adult population has thyroid nodules.

There is a good chance that some of your recent applicants were found to have thyroid nodules. This is both because thyroid nodules are common, being present in about one half of the adult population, and since many imaging procedures, such as sonograms, are performed daily in this country.

Thyroid nodules are more common with aging, in females, in individuals with a history of neck irradiation and in those who live in areas where iodine deficiency is prevalent. Most are asymptomatic or minimally symptomatic.

While the great majority of thyroid nodules are benign, about five to ten percent of thyroid nodules do contain cancer, which often presents a challenge to the underwriter, since findings based upon ultrasound, history and physical examination are often inadequate to exclude malignancy.

About two thirds of thyroid nodules that have at least one concerning property on the ultrasound end up being benign, and in fact most hypoechoic nodules are benign. Conversely, many thyroid cancers have at least one sonographic finding suggesting a benign nodule. Thus, sonographic findings by themselves are often not predictive of the diagnosis.
As part of the evaluation of a thyroid nodule, the doctor may draw a blood test called TSH (Thyroid Stimulating Hormone). If the TSH value is low, that suggests the presence of hyperthyroidism, or an overactive thyroid, which implies that the thyroid nodule might be actively producing thyroid hormone. To prove this, a thyroid scan may then be performed, and a hyperfunctioning, or “hot” nodule, would be confirmatory, and this is usually considered to be benign. If the nodule is not producing thyroid hormone, it is said to be hypofunctioning, or “cold”, and about 5 percent to 20 percent of such nodules are malignant, and thus further investigation is usually warranted.

**Fine Needle Biopsy Results**

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>60-70 %</td>
<td>Benign</td>
</tr>
<tr>
<td>5-10 %</td>
<td>Cancerous</td>
</tr>
<tr>
<td>10 %</td>
<td>Suspicious/Indeterminate</td>
</tr>
<tr>
<td>10-20 %</td>
<td>Nondiagnostic</td>
</tr>
</tbody>
</table>

The Preferred Diagnostic Procedure

Fine needle aspiration biopsy, in which a thin needle is used to obtain cells for evaluation under a microscope, is the diagnostic procedure of choice for thyroid nodules. When this procedure is performed, the results are benign about 60 to 70 percent of the time. About 5 to 10 percent of the time the cells are found to be cancerous. About 10 to 20 percent of the time the results are noted to be nondiagnostic, which for example may be due to not obtaining enough cells for examination. About 10 percent of the time the results are noted to be suspicious or indeterminate, and many of these are found to be cancerous on follow up.

You will probably often see that small thyroid nodules, which are less than 1 cm in size, are observed rather than actively evaluated, unless they have characteristics suspicious for malignancy. That is because even though some of these may be cancerous, thyroid cancers that small are usually felt not to be clinically relevant, and thus the doctors feel comfortable obtaining serial sonograms and physical examinations to see if the nodules change. Benign nodules tend to grow slowly, and it is very helpful for underwriting purposes if the medical records contain several follow up ultrasounds showing stability.

**Case Studies**

**Applicant One** is a 35 year old female who was found to have a 2.5 cm hypoechoic nodule that was found to be hypofunctioning (“cold”) on a thyroid scan. A fine needle aspiration biopsy was performed and found to be benign. While the large size of the nodule and the thyroid scan results were compatible with the possibility of cancer, the fine needle aspiration ruled out malignancy. This helps to reinforce that even benign nodules can have some concerning characteristics. This case can be Preferred Plus.

**Applicant Two** is a 42 year old male who was found five years ago to have a 1.2 cm thyroid nodule that was found to be hypofunctioning (“cold”) on a thyroid scan. The applicant is followed by an endocrinologist, who believes that the nodule is benign, and annual sonograms have shown stability of the nodule. Although the thyroid nodule was “cold” and has not been biopsied, since the applicant is well followed and the nodule has been stable for several years, this can be Preferred Plus.

**Applicant Three** is a 70 year old male who received neck irradiation as a child for unknown reasons, and who was found to have a 3.0 cm thyroid nodule that was hypoechoic and contained microcalcifications. A fine needle aspiration biopsy was performed and the pathology was noted to be indeterminate. There are several concerning findings here for cancer, including the applicant’s age, history of irradiation, size of the nodule, hypoechoic status, microcalcifications and biopsy results. This case needs to be postponed for further evaluation.

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