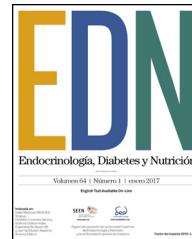




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REVIEW ARTICLE

Consensus statement for use and technical requirements of thyroid ultrasound in endocrinology units[☆]

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Abstract Thyroid nodule detection has increased with widespread use of ultrasound, which is currently the main tool for detection, monitoring, diagnosis and, in some instances, treatment of thyroid nodules. Knowledge of ultrasound and adequate instruction on its use require a position statement by the scientific societies concerned.

The working groups on thyroid cancer and ultrasound techniques of the Spanish Society of Endocrinology and Nutrition have promoted this document, based on a thorough analysis of the current literature, the results of multicenter studies and expert consensus, in order to set the requirements for the best use of ultrasound in clinical practice. The objectives include the adequate framework for use of thyroid ultrasound, the technical and legal requirements, the

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clinical situations in which it is recommended, the levels of knowledge and learning processes, the associated responsibility, and the establishment of a standardized reporting of results and integration into hospital information systems and endocrinology units.

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PALABRAS CLAVE

Ecografía tiroidea; Cáncer de tiroides; Intervencionismo tiroideo; Consenso; Organización; Requisitos; Asistencia sanitaria

Criterios sobre la utilización y requerimientos técnicos de la ecografía tiroidea en los servicios de endocrinología y nutrición

Resumen La ecografía se ha convertido en un instrumento imprescindible en la asistencia a los pacientes con enfermedades tiroideas. La detección de los nódulos tiroideos se ha incrementado con el uso generalizado de la misma, siendo la herramienta principal para su detección, orientación diagnóstica, seguimiento y, en ocasiones, también terapéutica.

Los Grupos de Trabajo de Cáncer de Tiroides y de Técnicas ecográficas de la Sociedad Española de Endocrinología y Nutrición han promovido este documento en el que se resumen los requisitos necesarios para la mejor práctica clínica posible con esta técnica.

Los objetivos del trabajo incluyen encuadrar su utilización dentro de la especialidad, los requisitos técnicos y legales necesarios, las situaciones clínicas de su aplicación, los niveles de conocimiento y aprendizaje, la responsabilidad asociada, la comunicación estandarizada de resultados e integración en los sistemas de información hospitalarios, posicionando la técnica ecográfica dentro de la cartera de servicios en las actuales unidades de Endocrinología y Nutrición.

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Introduction

Ultrasonography (US) allows for understanding the characteristic patterns of the thyroid gland, collecting relevant cytological samples of adequate quality, assessment of vascularization and thyroid cancer, and development of minimally invasive treatments, and has therefore revolutionized diagnosis, monitoring, and treatment of benign and malignant thyroid diseases, becoming one of the most significant advances in our specialty in recent decades.

US is currently the best imaging test for selecting the puncture pathway and optimizing access to the lesion to be studied or treated with a minimum risk of complications. However, actions derived from a deficient interpretation of US and inadequate performance of invasive procedures may involve an unnecessary risk for the patient and legal consequences for the physician. Thus, US should only be performed at clinical units integrated in the functional plan by experienced staff.

In order to help clinical teams integrate all of these factors into the design and implementation of the diagnostic, therapeutic, and monitoring plan for patients with thyroid disease, and at the proposal of the working groups on thyroid cancer and US techniques of the Spanish Society of Endocrinology and Nutrition (SEEN), a consensus document (<http://www.seen.es/docs/apartados/439/Documento.Consenso.Ecografia.pdf>) and this summary have been prepared to establish the knowledge and skills required of endocrinologists in this field, as well as all other conditions to be met by the units. The document is intended to be used

as guidance for the medical community and the healthcare administration.

Rational use and indications of thyroid US

The prevalence of thyroid nodules detected by palpation ranges from 4% and 8%,^{1,2} and is up to 66% when US is performed.^{3–6} However, only a small proportion of nodules (2%–15%) are found to be malignant.^{7–10} Moreover, widespread use of imaging tests to study thyroid and other diseases has led to an almost exponential increase in detection of nodular thyroid disease.^{11–16} However, only a few of these incidentalomas are malignant: 5% to 13% of those found by US, computed tomography, or magnetic resonance imaging,^{15,17} and 27%–42% of those detected by positron emission tomography.^{16,18}

Today, thyroid US is indicated for incidentalomas found by another imaging test, patients at high risk of thyroid cancer, with palpable nodules or suspicious adenopathies,¹⁹ but is not recommended as a screening test in the general population or in patients with normal palpation and low risk for thyroid cancer.^{19,20} On the other hand, ultrasonographic characteristics do not allow for accurate differentiation of benign and malignant nodules, but may identify malignant characteristics,^{8,10,11,21} which allows for selecting those that require fine needle aspiration (FNA),²⁰ thus optimizing diagnosis²² and providing information on the functional status of the gland.²³

Table 1 shows the advantages of US. It should be noted, however, that US results depend on the operator, and

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