

To sum up, it is true that each department must adapt organization of the high-resolution thyroid nodule clinic to its particular situation and available means. In our view, however, a high-resolution thyroid nodule clinic only achieves maximum efficiency and autonomy in the hands of endocrinologists qualified to perform the clinical assessment and ultrasonographic procedures needed for a complete work-up. Training in thyroid ultrasonography and FNA of all interested endocrinologists and residents in endocrinology is therefore desirable, as is a clear positioning of the Spanish Society of Endocrinology and Nutrition in the defense of this training, which is increasingly needed in our field.

We think that endocrinologists are the main actors qualified to integrate all data needed for thyroid nodule diagnosis and monitoring, and not as a simple technician, but as a true protagonist able to efficiently tackle a disease whose prevalence overflows the conventional diagnostic channels.

Conflicts of interest

The authors state that they have no conflicts of interest.

References

1. Fernández-García JC, Mancha-Doblas I, Ortega-Jiménez MV, Ruiz-Escalante JF, Castells-Fusté I, Tofé-Povedano S, et al. Diagnostic and functional structure of a high-resolution thyroid nodule clinic. *Endocrinol Nutr*. 2014;61:329–34.
2. Zambrana García JL, Jiménez-Ojeda B, Marín Patón M, Almazán González S. La consulta única o de alta resolución como una alternativa de eficiencia a las consultas externas hospitalarias tradicionales. *Med Clin (Barc)*. 2002;118:302–5.
3. Montijano Cabrera AM, Zambrana García JL, Amat Vizcaino M, Velasco Malagón MJ, Adarraga Cansino MD, Rosa Giménez F, et al. Aplicabilidad y aportaciones al sistema de "consulta única" en cardiología. *Rev Esp Cardiol*. 2003;38:69–76.
4. Juan Ruiz FJ, Aranda Pérez G, Trujillo Ruiz J. Alta resolución, pacientes, parientes e innovación organizativa. *Rev Adm Sanit*. 2007;5:105–21.
5. Rosa F, Zambrana JL, Velasco MJ, Adarraga D, Martos L, Marín M. Análisis de los tiempos de demora en un programa de consulta única. *Rev Calid Asist*. 2002;17:378–9.
6. Falces C, Sadurní J, Monell J, Andrea R, Ylla M, Moleiro A, et al. One-stop outpatient cardiology clinics: 10 years' experience. *Rev Esp Cardiol*. 2008;61:530–3.
7. Montijano Cabrera AM, Caballero Gueto J. La consulta de acto único en cardiología. *Rev Esp Cardiol*. 2007;7:C30–6.
8. Castells I, Pardo N, Videla S, Giménez G, Llargues E, Simó O, et al. Impacto asistencial tras la introducción de la ecografía tiroidea en una unidad monográfica de atención al nódulo tiroideo. *Endocrinol Nutr*. 2013;60:53–9.
9. Baskin HJ. Thyroid ultrasound—just do it. *Thyroid*. 2004;14:91–2.
10. Nou E, Kwong N, Alexander LK, Cibas ES, Marqusee E, Alexander EK. Determination of the optimal time interval for repeat evaluation after a benign thyroid nodule aspiration. *J Clin Endocrinol Metab*. 2014;99:510–6.
11. Gervás J, Palomo L. ¿Alta o excesiva resolución? *Med Clin (Barc)*. 2002;119:315.

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Reply to: Diagnostic and functional structure of a high-resolution thyroid nodule clinic: An efficiency model[☆]



Respuesta a: Estructura diagnóstica y funcional de una consulta de alta resolución tiroidea: un modelo de eficiencia económica

We have carefully read the letter by Díaz-Soto et al.¹ containing reflections related to our paper, recently published in *Endocrinología y Nutrición*, regarding the ideal structure

of a high-resolution thyroid nodule clinic.² As the people responsible for the thyroid nodule clinic on which most of these observations are focused, we would like to make some clarifications.

First of all, Díaz-Soto et al. state that the only model of clinic that meets the requirements for a high-resolution clinic is a clinic where the endocrinologist performs ultrasonography and fine needle aspiration (FNA), thereby dismissing other plausible options. To support their statement, they use the following definition of a high-resolution clinic: "a clinic that includes in the same care action the performance of examinations required for the diagnosis and treatment of a given condition. The ultimate and primary goal is to improve system efficiency by decreasing the number of patient visits, avoiding delays in tests and appointments for subsequent visits, and increasing the satisfaction perceived by patients". Based on this scheme, we see no objective reason for considering any of the models of single action clinic cited in our recent review as less valid options.

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Second, Díaz-Soto et al. associate the performance of ultrasonography and FNA by professionals other than the endocrinologist with the loss of this specialist's leading role. We do not agree with this view because we think that, whether at a high-resolution clinic or at their usual surgery, endocrinologists will always be responsible for integrating the laboratory, clinical, ultrasonographic, and cytological data concerning the thyroid nodule, regardless of whether or not they perform such examinations themselves. A different question is the claim that endocrinologists take control by performing ultrasonography and FNA, but even when these procedures are done by other specialists, they continue to be the true directors and coordinators, and are ultimately responsible for making clinical decisions in thyroid nodule management.

We do not agree either with the following statement: "the time and staff investment and coordination required when at least three specialists (endocrinologist, radiologist, and pathologist) work in the same physical environment of a high-resolution thyroid nodule clinic significantly impair the efficiency of the system, reducing, *sensu stricto*, the high-resolution clinic to three conventional outpatient clinics with a coordinated datebook". This statement was probably made in disregard of some basic factors in cost-effectiveness analysis, such as (1) that although this clinic model requires the involvement of a large number of specialists, the number of patients seen may be significantly larger; (2) that in any cost-effectiveness analysis, the cost should be correlated to the clinical results, especially with inadequate sample sizes and false positive and false negative results, which have not been analyzed, and (3) that the interrelations between different specialists which is characteristic of this model of clinic may significantly increase clinical performance.³⁻⁵ In addition, we are not aware of any publication which has comparatively studied the different models of high-resolution thyroid nodule clinic reported as plausible. This is an aspect that has not been clarified and additional analysis is still required to ascertain the efficiency of each individual model.

We would like to emphasize again that each medical department should implement the model that best suits its daily clinical practice, its care potential, and the qualifications of its professionals. The characteristics of the professionals involved and the means available should guide the model of each high-resolution thyroid nodule clinic at each health care center.

Apart from these questions, we fully agree with Díaz-Soto et al. in the convenience of endocrinologists being trained and experienced in thyroid ultrasonography and FNA.

Moreover, we think that, once thyroid ultrasonography has been mastered, we should also venture to perform additional procedures such as radio frequency, ethanol instillation, or elastography, because knowledge of them would exponentially increase our care autonomy. There is no doubt that the mastery of such procedures which widen the scope of our knowledge should be proactively stimulated, because this will make us better professionals and so play a crucial role in the development of our specialty.

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References

1. Díaz-Soto G, Torres B, López JJ, de Luis D. Estructura diagnóstica y funcional de una consulta de alta resolución tiroidea: un modelo de eficiencia económica. *Endocrinol Nutr.* 2014; <http://dx.doi.org/10.1016/j.endonu.2014.05.004> [Epub ahead of print].
2. Fernández-García JC, Mancha-Doblas I, Ortega-Jiménez MV, Ruiz-Escalante JF, Castells-Fusté I, Tofé-Povedano S, et al. Diagnostic and functional structure of a high-resolution thyroid nodule clinic. *Endocrinol Nutr.* 2014;61:329-34.
3. Supit E, Peiris AN. Cost-effective management of thyroid nodules and nodular thyroid goiters. *South Med J.* 2002;95:514-9.
4. O'Brien B. Principles of economic evaluation for health care programs. *J Rheumatol.* 1995;22:1399-402.
5. Loza C, Castillo-Portilla M, Rojas JL, Huayanay L. Basic principles and methodological considerations of health economic evaluations. *Rev Peru Med Exp Salud Publica.* 2011;28:518-27.

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