



Roma, 9-12 novembre 2017



ITALIAN CHAPTER



# ***Clinical Impact of Indeterminate Category in Thyroid Nodules After New SIAPEC-IAP Classification***

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# Conflitti di interesse



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Ai sensi dell'art. 3.3 sul conflitto di interessi, pag 17 del Regolamento Applicativo Stato-Regioni del 5/11/2009, dichiaro che negli ultimi 2 anni NON ho avuto rapporti diretti di finanziamento con soggetti portatori di interessi commerciali in campo sanitario.

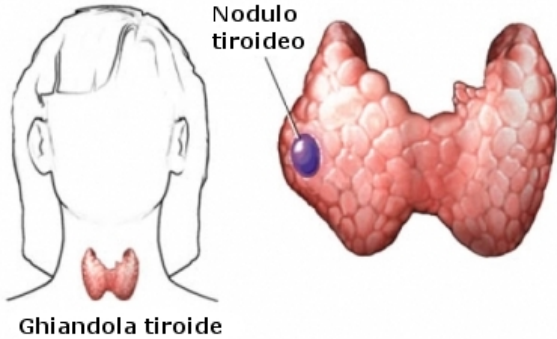


# Background

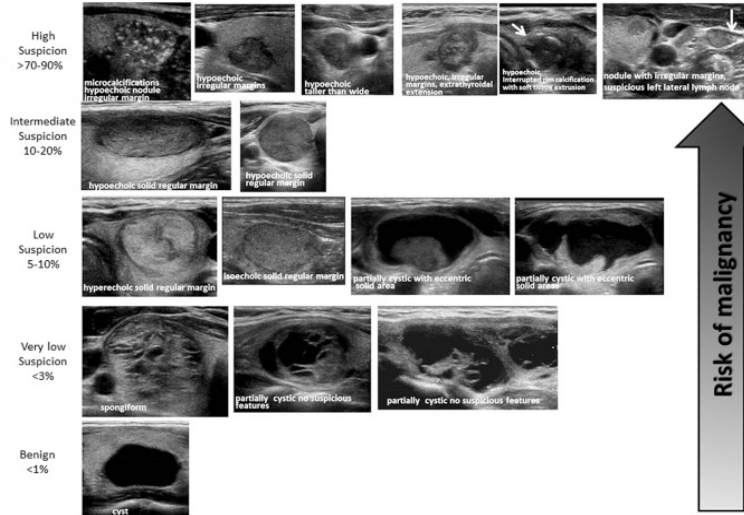


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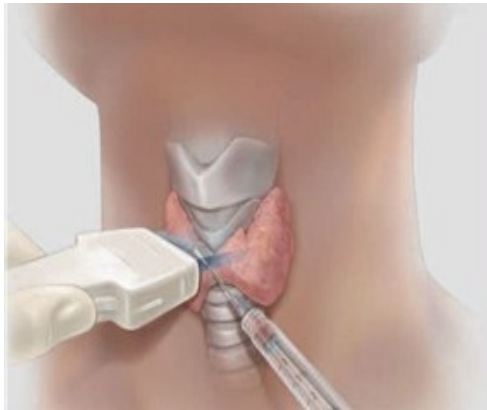
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- ✓ Increased detection of thyroid nodules
- ✓ About 15-20% palpable nodules and 19-67% at incidental ultrasound finding in unsuspected people



✓ Fine-needle aspiration biopsy (FNAB): the best predictive, cost-effective, safe and rapid test for discriminating malignant thyroid nodules



Hegedüs L (2004) Clinical Practice. The thyroid nodule. *N Engl J Med* 351 (17):1764-1771.  
 Haugen BR, et al. (2016) American Thyroid Association Management Guidelines for Adult Patients with Thyroid Nodules and Differentiated Thyroid Cancer. *Thyroid* Volume 26, Number 1.



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# Material & Methods



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- ✓ The cytologic diagnoses before May 31st 2014 were made in accordance with the five diagnostic groups of the British Thyroid Association

Guidelines  
for the management of  
thyroid cancer

Second edition

TH1 – non-diagnostic  
 TH2 – non-neoplastic  
 TH3 – follicular lesion  
 TH4 – suspicion of malignancy  
 TH5 – diagnostic of malignancy.

British Thyroid Association

Royal College of Physicians

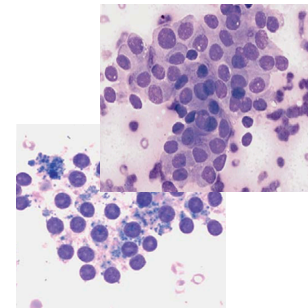
2007

- ✓ Since June 2014 the new SIAPEC-IAP Consensus has been applied

## CONSENSUS STATEMENT

### Italian consensus for the classification and reporting of thyroid cytology

Francesco Nardi · Fulvio Basolo · Anna Crescenzi · Guido Fadda ·  
 Andrea Frasoldati · Fabio Orlandi · Lucio Palombini · Enrico Papini ·  
 Michele Zini · Alfredo Pontecorvi · Paolo Vitti



Hegedüs L (2004) *Clinical Practice. The thyroid nodule. N Engl J Med* 351 (17):1764-1771.

# Material & Methods



J Endocrinol Invest (2014) 37:593–599

**Table 1** 2013 Italian thyroid cytology classification system

Code	Diagnostic category	Expected risk of malignancy (%)	Suggested actions
TIR1	Non-diagnostic	Not defined	Repeat US-guided FNA after at least 1 month
TIR1C	Non-diagnostic-cystic	Low (variable on the basis of clinical findings)	Evaluate the clinical setting and/or repeat FNA
TIR2	Non-malignant/benign	<3	Follow-up
TIR3A	Low-risk indeterminate lesion (LRIL)	<10 <sup>a</sup>	Repeat FNA/clinical follow-up
TIR3B	High-risk indeterminate lesion (HRIL)	15–30 <sup>a</sup>	Surgery
TIR4	Suspicious of malignancy	60–80	Surgery (consider frozen section)
TIR5	Malignant	>95	Surgery

<sup>a</sup> Expected rate of malignancy for the TIR3 subcategories is mainly found on clinical experience and is only partially based on the evidence of the published data

**Table 2** Comparison of the Italian classification system for thyroid cytology with the Bethesda system and the Royal college of Pathology Guidance for reporting of thyroid cytology specimens

SIAPEC-AIT2013	USA Bethesda	UK RCPATH
TIR 1 Non-diagnostic	I. Non-diagnostic	Thy1/Thy1c
TIR 1c Non-diagnostic cystic	Cystic fluid only	Non-diagnostic for cytological diagnosis
TIR 2 Non-malignant	II. Benign	Unsatisfactory, consistent with cyst
TIR 3A Low-risk indeterminate lesion (LRIL)	III. Atypia of undetermined significance or follicular lesion u.s. AUS/FLUS	Thy2/Thy2c Non-neoplastic
TIR 3B High-risk indeterminate lesion (HRIL)	IV. Follicular neoplasm or suspicious for a follicular neoplasm	Thy 3a Neoplasm possible—atypia/non-diagnostic
TIR 4 Suspicious of malignancy	V. Suspicious of malignancy	Thy 3f Neoplasm possible—suggesting follicular neoplasm
TIR 5 Malignant	VI. Malignant	Thy 4 Suspicious of malignancy
		Thy 5 Malignant

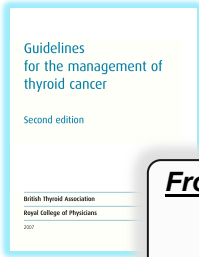


# Results

Analysis from February 1° 2008 to July 31° 2017



8956 Cytologies



*From February 2008 to May 2014*  
5692

*From June 2014 to July 2017*  
3264

- TIR1
- TIR2
- TIR3
- TIR4
- TIR5

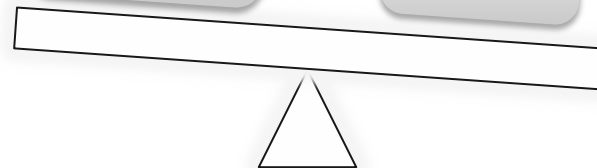
655 Total TIR3

⇒ 20,1%

347 TIR3

6,1% ←

349 TIR3A (10,7%) e 303 TIR3B (9,4%)





# Results

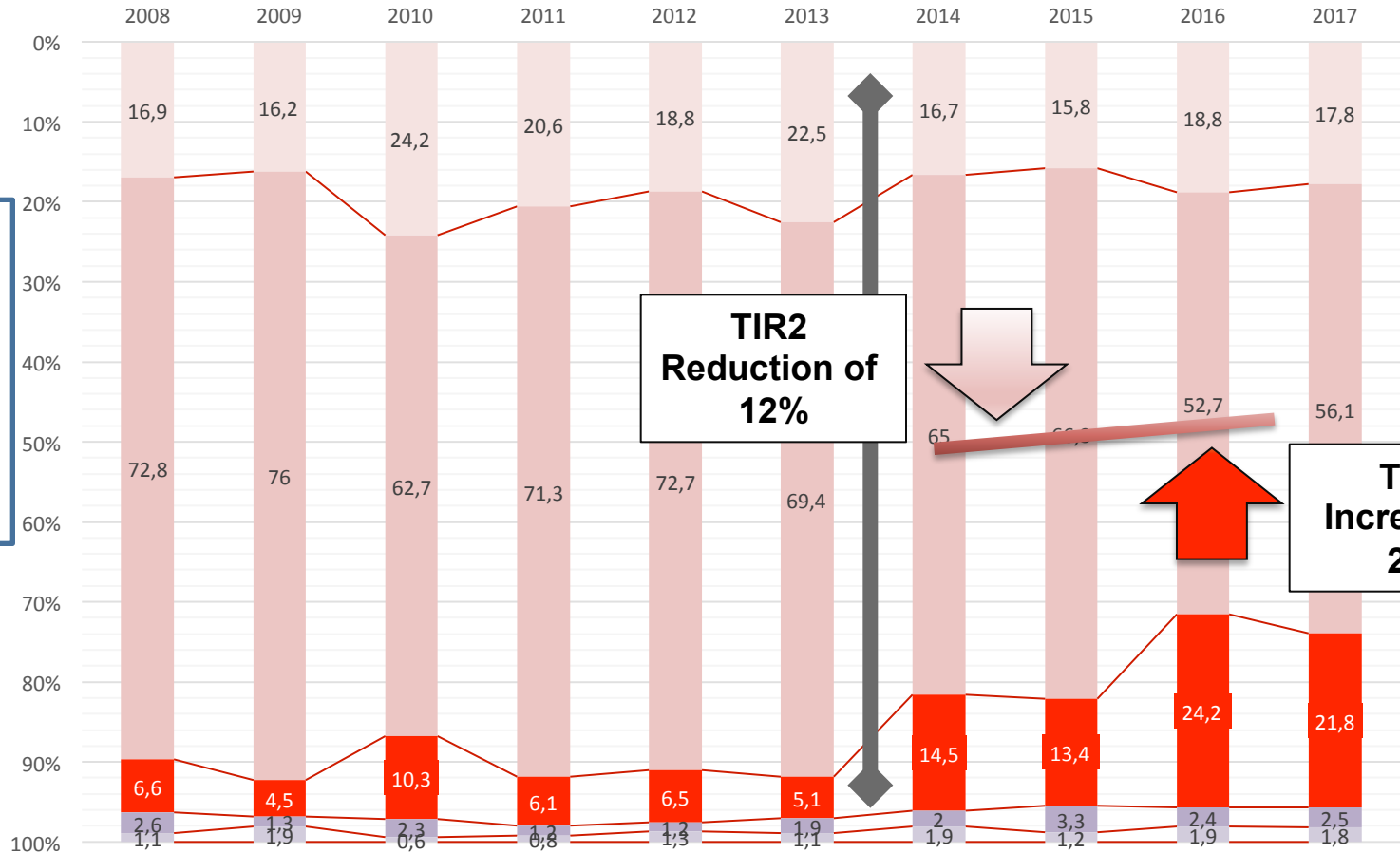


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## Percentage Distribution of Cytologies over the years

- TIR1
- TIR2
- TIR3
- TIR4
- TIR5



**TIR2  
Reduction of  
12%**

**TIR3  
Increase of  
20%**

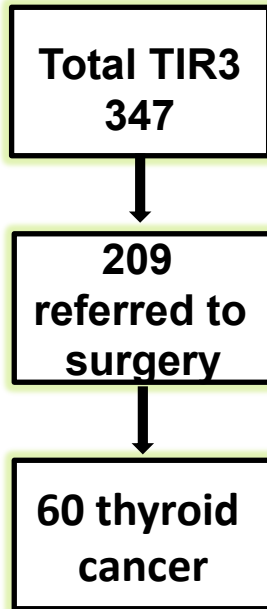


# Results

Analysis from February 1° 2008 to July 31° 2017



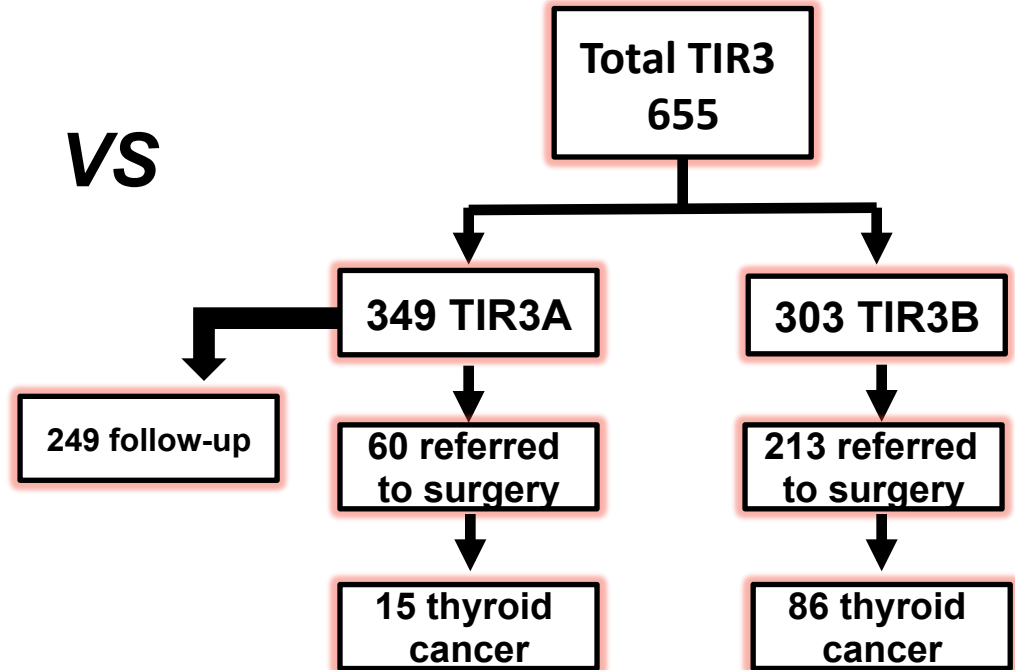
## Before the new Classification



**28,7%**

VS

## After the new Classification



**40,4%**





# Conclusions



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- ❖ **The categories of the new Classification are in line with the major international Cytological Classifications**
- ❖ **Since May 2014, TIR3 cytologies have increased statistically significantly in our series, with a simultaneous reduction in TIR2 cytologies**
- ❖ **We found an increased cancer rate in TIR3B category: about 40%, compared to the expected 15-30%**
- ❖ **The new Classification is an advancement in selecting high risk patients, with a cancer rate of 40,4% in TIR3B nodules, compared to the previous 28,7% of the *old* TIR3.**



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# Conclusions



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Thank You

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