

# DIE 5. WHO-KLASSIFIKATION DER SCHILDDRÜSENNEOPLASIEN

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14. Nationaler Kongress der OGNMB  
Bad Ischl, 19.-21. Jänner 2023

ÖSTERREICHISCHE GESELLSCHAFT FÜR  
NUKLEARMEDIZIN &  
MOLEKULARE BILDGEBUNG

# WHO Classification of Tumours online

## Endocrine and Neuroendocrine Tumours (5th ed.)

### 3. Thyroid gland

#### Introduction

#### Developmental abnormalities

- Thyroglossal duct cyst
- Other congenital thyroid abnormalities

#### Follicular cell-derived neoplasms

##### Benign tumours

- Thyroid follicular nodular disease
- Follicular thyroid adenoma
- Follicular thyroid adenoma with papillary architecture
- Oncocytic adenoma of the thyroid

##### Low risk neoplasms

- Non-invasive follicular thyroid neoplasm with papillary-like nuclear features
- Thyroid tumours of uncertain malignant potential
- Hyalinizing trabecular tumour of thyroid

##### Malignant neoplasms

- Follicular thyroid carcinoma
- Invasive encapsulated follicular variant papillary carcinoma
- Papillary thyroid carcinoma
- Oncocytic carcinoma of the thyroid
- Follicular-derived carcinomas, high-grade
- Anaplastic follicular cell derived thyroid carcinoma

#### Thyroid C-cell derived carcinoma

- Medullary thyroid carcinoma

#### Mixed medullary and follicular-cell derived carcinomas

- Mixed medullary and follicular cell-derived thyroid carcinoma

#### Salivary gland-type carcinomas of the thyroid

- Mucoepidermoid carcinoma of the thyroid
- Secretory carcinoma of salivary gland type

#### Thyroid tumours of uncertain histogenesis

- Sclerosing mucoepidermoid carcinoma with eosinophilia
- Cribiform morular thyroid carcinoma

#### Thymic tumours within the thyroid

- Thymoma family
- Spindle epithelial tumour with thymus-like elements
- Thymic carcinoma family

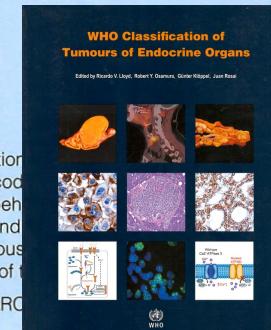
#### Embryonal thyroid neoplasms

- Thyroblastoma



2022

Follicular adenoma	8330/0	Ectopic thymoma	8580/3
Hyalinizing trabecular tumour	8336/1*	Spindle epithelial tumour with thymus-like differentiation	8588/3
Other encapsulated follicular-patterned thyroid tumours		Intrathyroid thymic carcinoma	8589/3
Follicular tumour of uncertain malignant potential	8335/1*	Paraganglioma and mesenchymal/stromal tumours	
Well-differentiated tumour of uncertain malignant potential	8348/1*	Paraganglioma	8693/3
Non-invasive follicular thyroid neoplasm with papillary-like nuclear features	8349/1*	Peripheral nerve sheath tumours (PNSTs)	
		Schwannoma	9560/0
		Malignant PNST	9540/3
		Benign vascular tumours	
		Haemangioma	9120/0
		Cavernous haemangioma	9121/0
		Lymphangioma	9170/0
		Angiosarcoma	9120/3
		Smooth muscle tumours	
		Leiomyoma	8890/0
		Leiomyosarcoma	8890/3
		Solitary fibrous tumour	8815/1
		Haematolymphoid tumours	
		Langerhans cell histiocytosis	9751/3
		Rosai-Dorfman disease	
		Follicular dendritic cell sarcoma	9758/3
		Primary thyroid lymphoma	
		Germ cell tumours	
		Benign teratoma (grade 0 or 1)	9080/0
		Immature teratoma (grade 2)	9080/1
		Malignant teratoma (grade 3)	9080/3
		Secondary tumours	
		2017	
		The morphology codes are from the International Classification for Oncology (ICD-O) (898A). Behaviour is coded 1/1 for unspecified, borderline, or uncertain behaviour; 2/2 for well differentiated; 3/3 for moderately differentiated; and 4/4 for poorly differentiated. Intraepithelial neoplasia is coded 0/0. The classification is modified from the previous edition to take into account changes in our understanding of tumour biology.	
		*These new codes were approved by the IARC.	



## Follicular cell-derived neoplasms

### Benign tumours

Noduläre Hyperplasie, Struma

Thyroid follicular nodular disease

Follicular thyroid adenoma

Follicular thyroid adenoma with papillary architecture

Oncocytic adenoma of the thyroid ~~Hürthle~~

### *Low risk neoplasms*

Non-invasive follicular thyroid neoplasm with papillary-like nuclear features

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### *Malignant neoplasms*

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Papillary thyroid carcinoma

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Follicular-derived carcinomas, high-grade

Anaplastic follicular cell derived thyroid carcinoma

Follicular adenoma

Hyalinizing trabecular tumour

Other encapsulated follicular-patterned thyroid tumours

Follicular tumour of uncertain malignant potential

Well-differentiated tumour of uncertain

malignant potential

Non-invasive follicular thyroid neoplasm with  
papillary-like nuclear features

Papillary thyroid carcinoma (PTC)

Papillary carcinoma

Follicular variant of PTC

Encapsulated variant of PTC

Papillary microcarcinoma

Columnar cell variant of PTC

Oncocytic variant of PTC

Follicular thyroid carcinoma (FTC), NOS

FTC, minimally invasive

FTC, encapsulated angioinvasive

FTC, widely invasive

Hürthle (oncocytic) cell tumours

Hürthle cell adenoma

Hürthle cell carcinoma

Poorly differentiated thyroid carcinoma

Anaplastic thyroid carcinoma

Squamous cell carcinoma

## Follicular cell-derived neoplasms

### Benign tumours

Thyroid follicular nodular disease

Follicular thyroid adenoma

Follicular thyroid adenoma with papillary architecture

Oncocytic adenoma of the thyroid

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Oncocytic carcinoma of the thyroid

Follicular-derived carcinomas, high-grade

Anaplastic follicular cell derived thyroid carcinoma

Follicular adenoma	8330/0
Hyalinizing trabecular tumour	8336/1*
<b>Other encapsulated follicular-patterned thyroid tumours</b>	
Follicular tumour of uncertain malignant potential	8335/1*
Well-differentiated tumour of uncertain malignant potential	8348/1*
Non-invasive follicular thyroid neoplasm with papillary-like nuclear features	8349/1*
<b>Papillary thyroid carcinoma (PTC)</b>	
Papillary carcinoma	8260/3
Follicular variant of PTC	8340/3
Encapsulated variant of PTC	8343/3
Papillary microcarcinoma	8341/3
Columnar cell variant of PTC	8344/3
Oncocytic variant of PTC	8342/3
<b>Follicular thyroid carcinoma (FTC), NOS</b>	
FTC, minimally invasive	8330/3
FTC, encapsulated angioinvasive	8335/3
FTC, widely invasive	8339/3*
<b>Hürthle (oncocytic) cell tumours</b>	
Hürthle cell adenoma	8290/0
Hürthle cell carcinoma	8290/3
<b>Poorly differentiated thyroid carcinoma</b>	
Anaplastic thyroid carcinoma	8337/3
<b>Squamous cell carcinoma</b>	
	8020/3
	8070/3

NIFT-P

# Follicular cell-derived neoplasms

## Benign tumours

Thyroid follicular nodular disease

Follicular thyroid adenoma

Follicular thyroid adenoma with papillary architecture

Oncocytic adenoma of the thyroid

## Low risk neoplasms

Non-invasive follicular thyroid neoplasm with papillary-like nuclear features

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## Malignant neoplasms

→ Follicular thyroid carcinoma

→ Invasive encapsulated follicular variant papillary carcinoma

→ Papillary thyroid carcinoma „Mikrokarzinom“

→ Oncocytic carcinoma of the thyroid

→ Follicular-derived carcinomas, high-grade

→ Anaplastic follicular cell derived thyroid carcinoma

Follicular adenoma

Hyalinizing trabecular tumour

Other encapsulated follicular-patterned thyroid tumours

Follicular tumour of uncertain malignant potential

Well-differentiated tumour of uncertain

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FTC, widely invasive

Hürthle (oncocytic) cell tumours

Hürthle cell adenoma

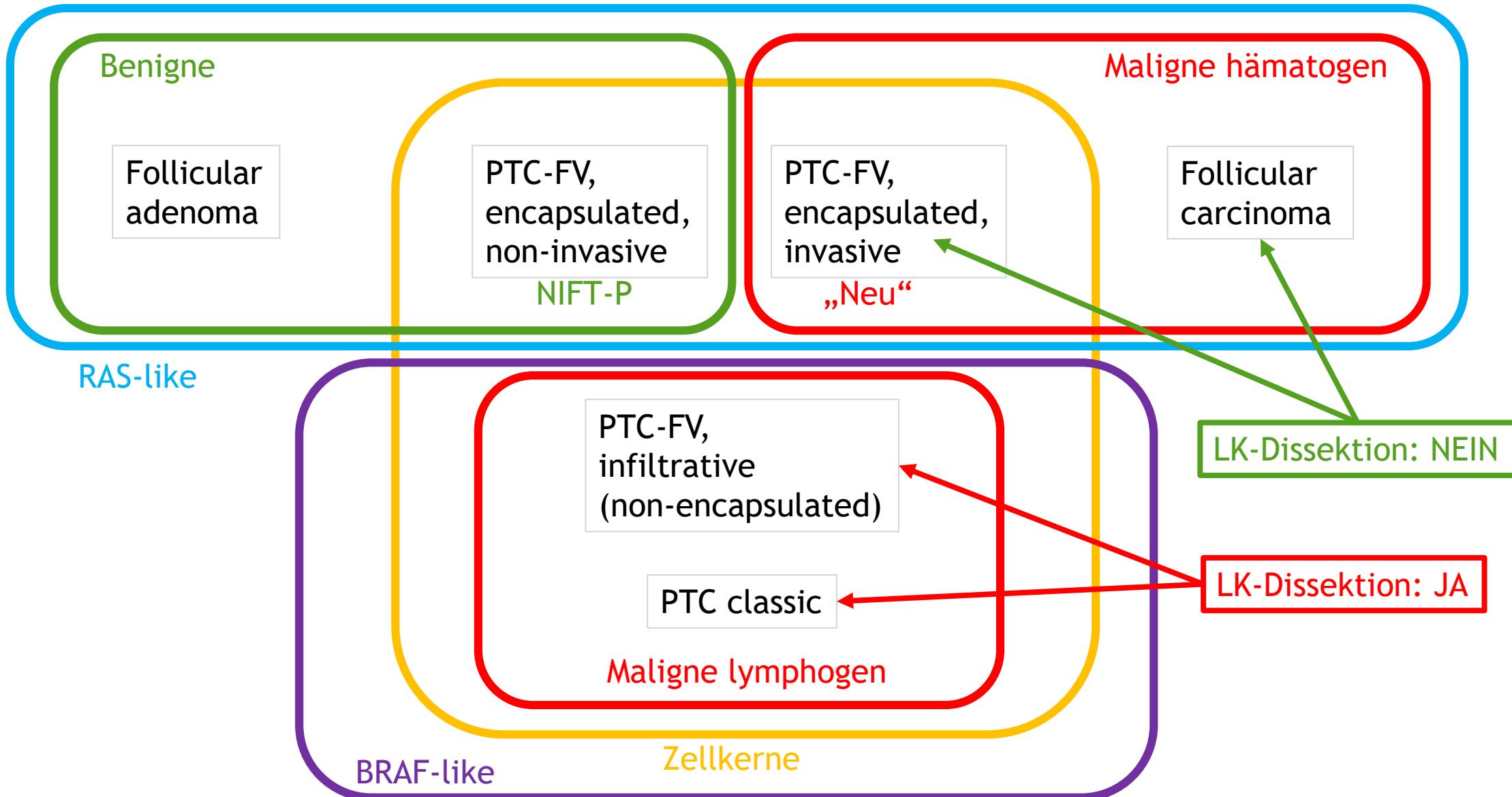
Hürthle cell carcinoma

Poorly differentiated thyroid carcinoma

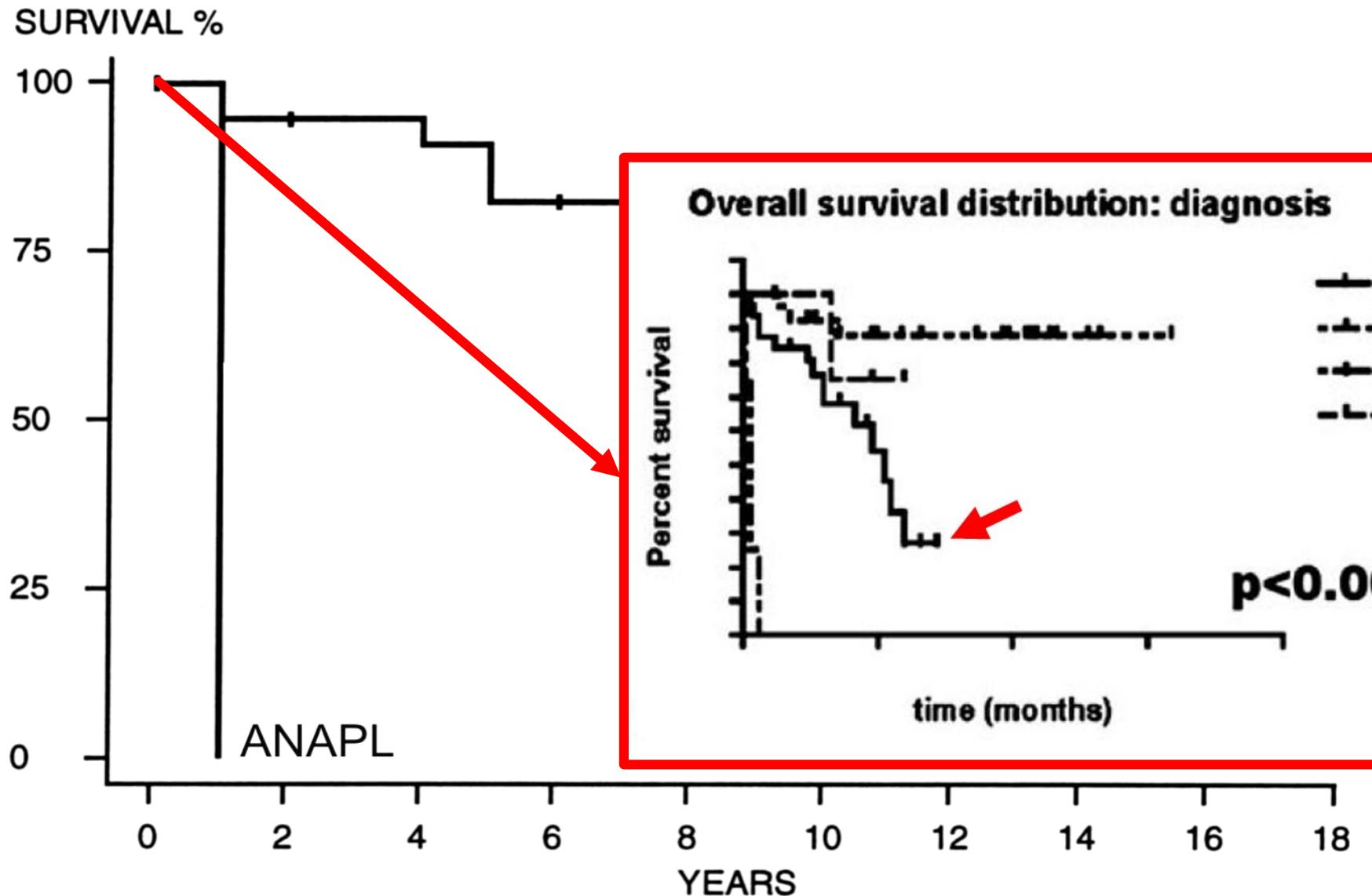
Anaplastic thyroid carcinoma

Squamous cell carcinoma

# Papilläres Karzinom, follikuläre Variante



# Poorly differentiated carcinoma



# 2022: Follicular-derived carcinomas, high grade

Grade (mitoses + necroses)	Histologic differentiation	Histotype	Prognosis
Low	Good (follicles, papillae)	PTC	Favorable
		FTC	
		Oncocytic	
High	Poor (solid/ trabecular/ insular)	DHGTC (papillary, follicular, oncocytic)	Intermediate
		PDTc	
Absent		Anaplastic carcinoma	Poor

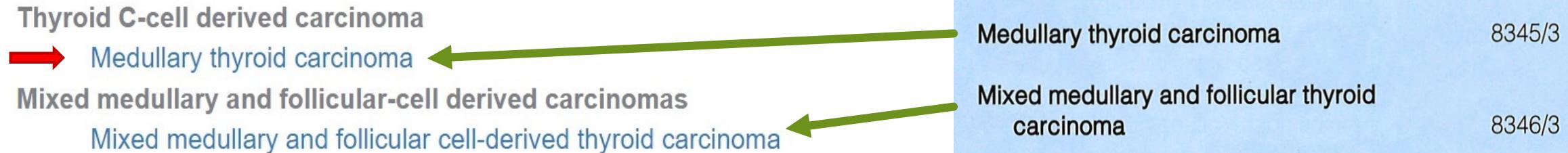
## Anmerkungen:

- DHGTC: deutsche Übersetzung??
- DHGTC + PDTc: enge Korrelation mit „high stage“ etc.

## Klinische Konsequenzen:

- LK-Dissektion:
  - DHGTC papillär und PDTc - JA
  - DHGTC follikulär, onkozytär - NEIN
- Postoperativ: DHGTC gleich wie PDTc
  - 1. Linie RAI
  - auf RAI-resistantens Rezidiv gefasst sein => Alternativen rechtzeitig ausarbeiten! („molecular Profiling“)

# Medulläres Karzinom



## International Medullary Thyroid Carcinoma Grading System: A Validated Grading System for Medullary Thyroid Carcinoma

Xu B, Fuchs TL, Ahmadi S, Alghamdi M, Alzumaili B, Bani MA, Baudin E, Chou A, De Leo A, Fagin JA, Ganly I, Glover A, Hartl D, Kanaan C, Khneisser P, Najdawi F, Nigam A, Papachristos A, Repaci A, Spanheimer PM, Solaroli E, Untch BR, Barletta JA, Tallini G, Al Ghuzlan A, Gill AJ, Ghossein RA

J Clin Oncol. 2022 Jan 1;40(1):96-104

### Korreliert mit:

- Tumorgröße
- Fernmetastasen
- TNM-Stadium
- Gefäßinvasion
- ETE und R-1

### IMTCGS Grading **(Mitosen + Nekrosen):**

- Low grade
- High grade

Proaktive RET-Mutationstestung  
für zielgerichtete Therapie

# Zusammenfassung: Änderungen

14

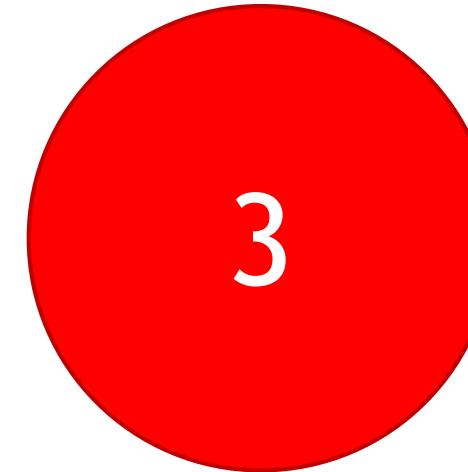


1



- Plattenepithelkarzinom = anaplastisches Karzinom

3



- „Invasive encapsulated variant papillary carcinoma“
- „Differentiated high grade thyroid carcinoma
- Grading für medulläres Ca

Postgraduate Course

## DIAGNOSTIC THYROID PATHOLOGY AND CYTOLOGY

MED CAMPUS, Medical University Graz, Austria

**September 20 - 22, 2023**

**Course Director:**

**Oleksiy Tsybrovskyy, MD**

Head of the Endocrine Pathology Working Group, Diagnostic and Research Institute of Pathology, Medical University of Graz, Austria

**Guest faculty:**

**Manuel Sobrinho Simões, MD, PhD**

Professor of Pathology, Director, Department of Molecular Pathology and Immunology of the University of Porto, Portugal

**Giovanni Tallini, MD**

Professor of Pathology, Professor of Pathology, Head of the Endocrine Pathology program, University of Bologna Medical Center, Bologna, Italy



Registration opens on  
**February 6, 2023**

