

Novartis NEN

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WHO 2017 Endocrine Organs 2019 Digestive systems “Neuroendocrine Neoplasms NEN” NET Neuroendocrine tumor NEC Neuroendocrine carcinoma MiNEN Mixed neuroendocrine-non-neuroendocrine neoplasm 1 WHO 2019 “Ki-67” 2 NET G1 Grade1 G2 Grade2 G3 Grade3 3 NEC Small cell type SCNEC Large cell type LCNEC NET NEC MiNEN NE NE 30 WHO

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WHO 2021 Thoracic Tumours 3 TNM Staging TNM ENETS AJCC/UICC TNM NEN WHO 2019 2019 5 NIKE Neuroendocrine tumors Innovation in Knowledge and Education Albertelli M, et al. Front Endocrinol (Lausanne). 2021; 12: 680305

1 WHO

WHO2010 ¹ Digestive systems	WHO2017 ² Endocrine Organs	WHO2019 ³ Digestive systems
Neuroendocrine tumour NET G1/G2	Neuroendocrine tumour NET G1/G2/G3 well-differentiated NEN	Neuroendocrine tumour NET G1/G2/G3 well-differentiated NEN

Neuroendocrine carcinoma NEC G3 large cell or small cell type	NEC G3 large cell or small cell type poorly differentiated NEN	NEC G3 large cell or small cell type poorly differentiated NEN
Mixed adeno-neuroendocrine carcinoma MANEC	Mixed neuroendocrine-non-neuroendocrine neoplasm MiNEN	Mixed neuroendocrine-non-neuroendocrine neoplasm MiNEN*
Hyperplastic and preneoplastic lesions		

NEC MANEC MANEC

2 NEN WHO 2019

		Grade	mitoses ^a /2mm ²	Ki-67 ^b
NET G1		Low	2	3
NET NET G2		Intermediate	2-20	3-20
NET G3		High	20	20
NEC Small cell type SCNEC		High ^c	20	20
NEC Large cell type LCNEC			20	20
MiNEN	or ^d	Variable ^d	Variable ^d	Variable ^d

- a. 0.2mm² 50 10mm² 2mm² 10HPF 40 0.5mm
- b. Ki-67 500 Grade Ki-67
- c. NEC grading high-grade
- d. MiNEN NE NE NE NEC MiNEN NE NE grading

3 NEN WHO 2021

		mitoses /2mm ²	
	5mm	2	
		2-10	

