## European Archives of Oto-Rhino-Laryngology

Sarah Riemann<sup>1</sup>, Iva Speck<sup>1</sup>, Kathrin Gerstacker<sup>1</sup>, Christoph Becker<sup>1</sup>, Andreas Knopf<sup>1</sup>

Collateral damage of the COVID-19 pandemic – an alarming decline in critical procedures in otorhinolaryngology in a German university hospital

<sup>1</sup> Department of Otorhinolaryngology - Head and Neck Surgery, University Hospital of Freiburg, Germany

Corresponding author:

Sarah Riemann

Department of Otorhinolarnygology- Head and Neck Surgery

University Hospital of Freiburg

Killianstraße 5, 79106 Freiburg, Germany

sarah.riemann@uniklinik-freiburg.de

**Table 2.** OPS-Codes used to define 'critical' procedures, with subcategories 'suspectedmalignancy', 'emergency', 'salivary gland surgery' and 'tumor surgery'.

Category	Subcategory	OPS-code
Critical	Suspected malignancy	5-401.00, 1-610.0, 1-611.0, 1-630.1
Critical	Emergency	5-210.1, 5-210.4, 5-289.1, 5-289.2, 5-211.20,
		5-270.5, 5-270.6, 5-281.1, 5-280.0, 5-280.1,
		5-280.2, 5-280.3, 5-280.x, 5-203.0*
Critical	Salivary gland surgery	5-262.00, 5-262.01, 5-262.02, 5-262.03,
		5-262.04, 5-262.05, 5-262.0x, 5-262.11,
		5-262.12, 5-262.13, 5-262.14, 5-262.15,
		5-262.1x, 5-262.20, 5-262.21, 5-262.22,
		5-262.23, 5-262.24, 5-262.25, 5-262.2x,
		5-262.3, 5-262.40, 5-262.41, 5-261.3,
		5-261.4
		* Mastoidectomy was only considered 'critical'
		in combination with the ICD 10 code for acute

in combination with the ICD-10 code for acute mastoiditis, (H70.0).

Category	Subcategory	OPS-code
Critical	Tumor surgery	5-251.00, 5-251.01, 5-251.02, 5-251.03,
		5-251.0x, 5-251.10, 5-251.11, 5-251.12,
		5-251.13, 5-251.1x, 5-251.20, 5-251.21,
		5-251.22, 5-251.23, 5-251.2x, 5-251.x0,
		5-251.x1, 5-251.x2, 5-251.x3, 5-251.xx,
		5-252.00, 5-252.01, 5-252.02, 5-252.03,
		5-252.0x, 5-252.10, 5-252.11, 5-252.12,
		5-252.13, 5-252.1x, 5-252.20, 5-252.21,
		5-252.22, 5-252.23, 5-252.2x, 5-252.30,
		5-252.31, 5-252.32, 5-252.33, 5-252.3x,
		5-252.40, 5-252.41, 5-252.42, 5-252.43,
		5-252.4x, 5-252.x0, 5-252.x1, 5-252.x2,
		5-252.x3, 5-252.xx, 5-277.00, 5-277.01,
		5-277.02, 5-277.03, 5-277.0x, 5-277.10,
		5-277.11, 5-277.12, 5-277.13, 5-277.1x,
		5-277.20, 5-277.21, 5-277.22, 5-277.23,
		5-277.2x, 5-277.30, 5-277.31, 5-277.32,
		5-277.33, 5-277.3x, 5-277.x0, 5-277.x1,
		5-277.x2, 5-277.x3, 5-277.xx, 5-281.2,
		5-295.00, 5-295.01, 5-295.02, 5-295.03,
		5-295.04, 5-295.05, 5-295.0x, 5-295.10,
		5-295.11, 5-295.12, 5-295.13, 5-295.14,
		5-295.15, 5-295.1x, 5-295.30, 5-295.31,
		5-295.32, 5-295.33, 5-295.34, 5-295.35,

5-295.3x, 5-295.x0, 5-295.x1, 5-295.x2, 5-295.x3, 5-295.x4, 5-295.x5, 5-295.xx, 5-296.00, 5-296.01, 5-296.02, 5-296.03, 5-296.04, 5-296.05, 5-296.06, 5-296.07, 5-296.0x, 5-296.10, 5-296.11, 5-296.12, 5-296.13, 5-296.14, 5-296.15, 5-296.16, 5-296.17, 5-296.1x, 5-296.30, 5-296.31, 5-296.32, 5-296.33, 5-296.34, 5-296.35, 5-296.36, 5-296.37, 5-296.3x, 5-296.x0, 5-296.x1, 5-296.x2, 5-296.x3, 5-296.x4, 5-296.x5, 5-296.x6, 5-296.x7, 5-296.xx, 5-301.0, 5-301.1, 5-301.2, 5-301.3, 5-301.x, 5-302.0, 5-302.1, 5-302.2, 5-302.3, 5-302.4, 5-302.5, 5-302.6, 5-302.7, 5-302.8, 5-302.9, 5-302.x, 5-303.00, 5-303.01, 5-303.02, 5-303.03, 5-303.04, 5-303.05, 5-303.06, 5-303.07, 5-303.0x, 5-303.10, 5-303.11, 5-313.12, 5-313.13, 5-313.14, 5-313.15, 5-313.16, 5-313.17, 5-313.1x, 5-303.20, 5-303.21, 5-323.22, 5-323.23, 5-323.24, 5-323.25, 5-323.26, 5-323.27, 5-323.2x, 5-303.x0, 5-303.x1, 5-303.x2, 5-303.x3, 5-303.x4, 5-303.x5, 5-303.x6, 5-303.x7, 5-303.x

			p-value
Critical_2018_before	VS	Critical_2018_after	0.71
Critical_2019_before	VS	Critical_2019_after	0.56
Critical_2020_before	VS	Critical_2020_after	0.001
Critical_2018_after	VS	Critical_2020_after	0.003
Critical_2019_after	VS	Critical_2020_after	0.002
Suspected malignancy_2020_before	VS	Suspected malignancy_2020_after	0.002
Tumor operation_2020_before	VS	Tumor operation_2020_after	0.43
Emergency procedures_2020_before	VS	Emergency procedures_2020_after	0.05
Salivary gland surgery_2020_before	VS	Salivary gland surgery_2020_after	0.05

**Table 4.** Weekly number of respective procedures eight weeks before and after March 16.All data are reported as median and first and third quartiles.

44 (37, 48.25) 21.5 (20.25, 24) 2 (2, 2.25) 4.5 (3, 6.75)	24 (20.25, 26.75) 11.5 (10.75, 15.25) 2 (0.75, 2.25) 3 (1.75, 3.25)
21.5 (20.25, 24) 2 (2, 2.25)	11.5 (10.75, 15.25) 2 (0.75, 2.25)
2 (2, 2.25)	2 (0.75, 2.25)
4.5 (3, 6.75)	3 (1.75, 3.25)
3 (2.75, 4.25)	3 (1.75, 3.25)
42 (37.75, 45.25)	45 (39, 48)
	41 (33.75, 45.5)
	42 (37.75, 45.25) 38 (36.75, 46)