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Table S1. Overall survival at specific timepoints. Values are percent survival with 95% confidence interval.

Features	1 month	3 months	1 year	3 years	5 years
Overall cohort	97.4 (97.2–97.5)	95.3 (95.1–95.4)	87.2 (86.9–87.5)	69.5 (69.1–69.9)	58.4 (57.9–58.9)
BMI category					
Underweight	96.0 (95.3–96.8)	92.5 (91.4–93.6)	81.1 (79.4–82.8)	61.8 (59.6–64.0)	52.0 (49.7–54.4)
Normal weight	97.2 (97.0–97.4)	94.8 (94.6–95.1)	86.2 (85.7–86.6)	68.7 (68.1–69.4)	57.9 (57.2–58.6)
Overweight	97.6 (97.4–97.8)	95.8 (95.5–96.1)	88.4 (88.0–88.9)	70.4 (69.7–71.1)	58.7 (57.8–59.5)
Obesity	97.6 (97.3–98.0)	96.3 (95.8–96.7)	89.7 (89.0–90.4)	72.3 (71.2–73.4)	61.3 (60.0–62.6)
Sex					
Female	98.9 (98.7–99.0)	98.0 (97.8–98.3)	94.6 (94.2–95.0)	86.3 (85.7–86.9)	80.7 (80.0–81.5)
Male	96.7 (96.5–96.9)	94.1 (93.9–94.4)	84.3 (84.0–84.7)	63.2 (62.7–63.8)	50.4 (49.8–51.0)
Age, y					
≤ 55	98.6 (98.3–98.8)	97.2 (96.9–97.6)	90.0 (89.4–90.7)	74.0 (73.0–74.9)	65.7 (64.6–66.8)
56–60	98.4 (98.1–98.7)	96.9 (96.5–97.3)	89.5 (88.8–90.2)	72.3 (71.2–73.3)	61.2 (60.0–62.5)
61–65	97.7 (97.4–98.0)	95.9 (95.5–96.3)	88.1 (87.4–88.8)	70.4 (69.4–71.4)	59.5 (58.4–60.7)
66–70	97.5 (97.2–97.8)	95.2 (94.8–95.6)	86.8 (86.1–87.5)	69.5 (68.5–70.5)	58.5 (57.4–59.7)
71–75	96.7 (96.3–97.1)	93.9 (93.4–94.5)	85.7 (84.9–86.5)	67.4 (66.3–68.6)	54.0 (52.8–55.4)
> 75	94.8 (94.3–95.3)	91.8 (91.1–92.4)	82.2 (81.3–83.1)	62.0 (60.8–63.2)	48.9 (47.6–50.2)
Charlson comorbid- ity index					
0–2	98.9 (98.7–99.2)	97.9 (97.6–98.2)	91.6 (91.0–92.2)	77.4 (76.4–78.3)	69.4 (68.2–70.5)
3	98.3 (98.0–98.5)	96.8 (96.4–97.1)	89.5 (88.8–90.1)	73.2 (72.2–74.2)	63.1 (62.0–64.2)
4–5	97.2 (97.0–97.4)	94.9 (94.6–95.2)	86.6 (86.1–87.1)	68.4 (67.7–69.1)	57.0 (56.3–57.8)
≥ 6	95.8 (95.5–96.2)	92.9 (92.4–93.4)	83.5 (82.9–84.2)	63.1 (62.2–64.0)	49.5 (48.5–50.6)
Performance status					
0	98.5 (98.4–98.7)	97.2 (97.0–97.5)	91.3 (90.9–91.7)	75.3 (74.6–75.9)	64.7 (64.0–65.5)
1	97.0 (96.8–97.3)	94.7 (94.4–95.0)	85.9 (85.4–86.4)	67.3 (66.6–67.9)	55.8 (55.1–56.6)
2–4	93.7 (93.0–94.4)	89.2 (88.3–90.1)	76.6 (75.4–77.9)	56.4 (54.9–57.9)	44.6 (43.0–46.2)
Stage					
0	99.4 (98.3–100.0)	96.9 (94.3–99.6)	93.6 (89.8–97.5)	80.2 (73.7–87.3)	68.4 (60.0–78.0)
I	98.2 (98.0–98.4)	96.9 (96.7–97.2)	93.0 (92.6–93.4)	80.1 (79.5–80.7)	68.9 (68.1–69.6)
II	97.3 (96.9–97.6)	94.9 (94.3–95.4)	85.6 (84.7–86.4)	65.5 (64.3–66.7)	53.6 (52.2–55.0)
III	96.3 (95.9–96.7)	93.1 (92.6–93.7)	79.4 (78.5–80.3)	53.9 (52.7–55.1)	42.3 (41.1–43.6)
IV	96.8 (96.0–97.5)	92.7 (91.6–93.8)	75.1 (73.3–77.0)	46.7 (44.5–49.0)	36.3 (34.1–38.6)
Surgical procedure					
Pneumonectomy	94.1 (93.4–94.7)	90.0 (89.2–90.8)	75.7 (74.5–76.9)	53.7 (52.3–55.2)	44.0 (42.5–45.5)
Other	97.7 (97.6–97.9)	95.9 (95.7–96.1)	88.6 (88.3–88.9)	71.4 (70.9–71.8)	60.1 (59.6–60.6)
Side					
Right	97.1 (96.9–97.2)	94.9 (94.7–95.2)	87.1 (86.7–87.5)	70.0 (69.4–70.6)	59.3 (58.6–59.9)
Left	97.8 (97.6–98.0)	95.7 (95.4–96.0)	87.3 (86.9–87.8)	68.7 (68.1–69.4)	57.1 (56.4–57.9)

Table S2. Association of body mass index categories with survival in the original data without imputation. Results presented are hazard ratios with 95% confidence intervals. In these analyses, missing data were not imputed, and only available cases were analysed.

Features	Unadjusted <i>n</i> = 54,592 Deaths = 17,075	Model 1 <i>n</i> = 54,237 Deaths = 16,984	Model 2 <i>n</i> = 48,002 Deaths = 14,827	Model 3 * <i>n</i> = 37,674 Deaths = 11,543
BMI category				
Underweight	1.24 (1.16–1.33)	1.60 (1.49–1.72)	1.49 (1.38–1.61)	1.48 (1.36–1.62)
Normal weight	1 (reference)	1 (reference)	1 (reference)	1 (reference)
Overweight	0.95 (0.92–0.98)	0.81 (0.79–0.84)	0.84 (0.81–0.87)	0.84 (0.81–0.88)
Obesity	0.87 (0.83–0.92)	0.79 (0.75–0.83)	0.80 (0.76–0.84)	0.83 (0.78–0.87)
Period				
2003–2006	—	1 (reference)	1 (reference)	1 (reference)
2007–2010	—	0.92 (0.88–0.97)	0.94 (0.89–0.99)	0.96 (0.90–1.01)
2011–2014	—	0.93 (0.89–0.98)	0.98 (0.93–1.03)	1.01 (0.95–1.07)
2015–2017	—	1.00 (0.95–1.04)	1.08 (1.02–1.14)	1.12 (1.06–1.19)
Sex, no. (%)				
Female	—	1 (reference)	1 (reference)	1 (reference)
Male	—	3.08 (2.94–3.23)	2.78 (2.64–2.92)	2.78 (2.63–2.94)
Age (per decade)	—	1.07 (1.05–1.10)	1.07 (1.04–1.09)	1.10 (1.07–1.12)
Charlson comorbidity index (per point until a score of 6 **)	—	1.12 (1.10–1.13)	1.09 (1.08–1.11)	1.10 (1.08–1.11)
Performance status				
0	—	—	1 (reference)	1 (reference)
1	—	—	1.20 (1.15–1.24)	1.16 (1.12–1.21)
2–4	—	—	1.65 (1.57–1.74)	1.59 (1.49–1.68)
Surgical procedure				
Pneumonectomy	—	1.75 (1.67–1.82)	1.69 (1.61–1.77)	1.27 (1.20–1.34)
Other	—	1 (reference)	1 (reference)	1 (reference)
Side				
Right	—	1 (reference)	1 (reference)	1 (reference)
Left	—	0.98 (0.95–1.01)	0.98 (0.95–1.01)	0.97 (0.94–1.01)
Histology				
Adenocarcinoma	—	—	1 (reference)	1 (reference)
Squamous-cell carcinoma	—	—	1.05 (1.01–1.09)	1.07 (1.03–1.12)
Carcinoid tumour, typical	—	—	0.19 (0.15–0.25)	0.24 (0.18–0.33)
Large-cell carcinoma, undifferentiated	—	—	1.40 (1.29–1.52)	1.25 (1.13–1.37)
Large-cell carcinoma, neuroendocrine	—	—	1.34 (1.21–1.52)	1.32 (1.16–1.49)
Carcinoid tumour, atypical	—	—	0.48 (0.38–0.61)	0.60 (0.46–0.78)
Small-cell lung carcinoma	—	—	1.73 (1.51–1.99)	2.25 (1.73–2.92)
Sarcomatoid carcinoma	—	—	1.70 (1.46–1.99)	1.52 (1.27–1.82)
Other	—	—	1.18 (1.04–1.33)	1.27 (1.10–1.46)
Stage				
I	—	—	—	1 (reference)
II	—	—	—	1.59 (1.51–1.67)
III	—	—	—	2.35 (2.25–2.46)
IV	—	—	—	3.07 (2.88–3.29)

* Patients with stage 0 (*n* = 81) or occult (*n* = 105) were excluded from this model. ** The effect of Charlson comorbidity index was capped at 6: scores above 6 were considered as associated with the same relative effect as scores of 6.