

^a432 patients overlapped randomly under two independent case retrieving schema.

Figure S1 Patient selection.

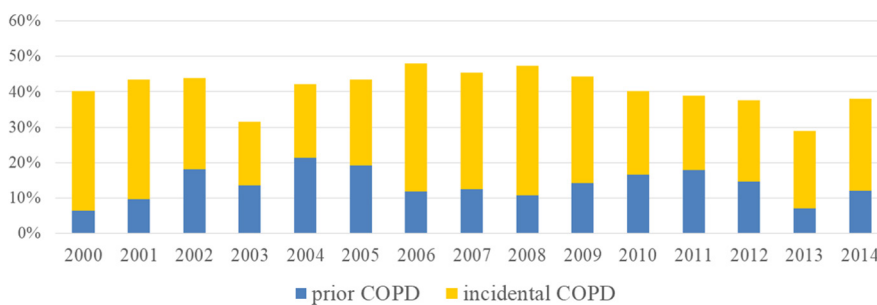


Figure S2 Time trend of rates of incidental and prior COPD in stage I lung cancer.

Table S1 Single nucleotide polymorphisms selection

Chromosome	Candidate Gene	No. of SNPs
chr 1	ALG6	2
	ATP1A4	1
	C1orf140	1
	DNM3	1
	EPB41	1
	FDPSP1	1
	IL10	1
	KLF17	1
	LOC100506985	1
	LOC100967224	1
	PTGER3	1
	PTGS2	1
	TP73	1
chr 2	ALK	1
	B3GALT1	3
	COL4A3	1
	CTNNA2	1
	GPR155	1
	LINC00570	1
	LINC01105	4
	LOC105373608	1
	LOC105374567	1
	LOC107985958	1
	MGAT5	1
	NFE2L2	1
	NRXN1	8
	THUMPD2	1
chr 3	CHL1	1
	FOXP1	2
	LINC00971	1
	LOC105374147	1
	SLC7A14	1
chr 4	IRF2	1
	KCNIP4	1
	LOC105374505	2
	TERT	1
chr 5	ADCY2	3
	CCNH	1
	CD74	2
	CLPTM1L	1
	LOC389273	1
	MSH3	4
	SLC6A3	1
chr 6	GCLC	4
	GLP1R	1
	LINC00472	1
	LYRM4	1
	MAP3K4	2
	PARK2	5
	PDE7B	1
	SASH1	1
	SERAC1	1
	SLC17A3	2
	TAAR8	1
chr 7	CNTNAP2	1
	CTTNBP2	1
	EGFR	1
	FAM3C	1
	GATS	1
	MAGI2	4
	MCM7	1
chr 8	CER1	1
	CHD7	1
	CSMD1	4
	FBXO25	1
	SCARA3	1
	SGCZ	2
	TNFRSF10B	4
	TOX	1
chr 9	ASTN2	1
	CKS2	1
	DEC1	1
	SLC24A2	2
	VPS13A	1
	XPA	1
chr 10	ABCC2	2
	CASP7	1
	LOC101929727	1
	PRKG1	1
	TRUB1	1
chr 11	CCND1	1
	CNTN5	2
	DRD4	1
	FZD4	1
	GSTP1	1
	KCNQ1	3
	LOC105376605	2
	LUZP2	1
	MTMR2	1
	RRM1	2
chr 12	CACNA1C	1
	FBXO21	2
	WIF1	1
chr 13	ABCC4	2
	BRCA2	1
	GPC5	129
	LOC105370220	1
	PARP4	1
	STARD13	1
chr 14	DHRS4L1	1
	LOC105370582	1
	PPP2R5E	1
	RGS6	10
chr 15	ATP8B4	2
	FSD2	1
	HOMER2	1
	LOC105370964	1
	MCTP2	3
	RYR3	1
	SYNM	1
	THSD4	3
chr 16	ABCC1	2
	WWOX	1
chr 17	ABCC3	1
chr 18	CTIF	1
	DCC	1
	DLGAP1	1
	GAREM1	1
	LOC284241	1
	PIEZO2	1
chr 19	ARHGEF18	1
	C19orf54	1
	ERCC2	1
	KXD1	2
	LEUTX	1
	PPP2R1A	1
	PRSS57	2
chr 20	CRLS1	1
	GSS	1
	LRRN4	1
	MACROD2	1
	PTPRA	1
chr 21	APP	1
	DSCAM	3
chr 22	SGSM1	1
	UPB1	1
Subtotal		332
	Unknown	52
Total		384

Table S2 Postoperative complications

	Non-COPD, n (%)	Incidental COPD		Prior COPD		P ^b
		n (%)	P ^a	n (%)	P ^a	
All surgical procedures						
Any postoperative complications	192 (16.5)	154 (28.1)	<0.01	74 (27.0)	<0.01	0.75
Atrial fibrillation	99 (8.5)	71 (12.9)	<0.01	32 (11.7)	0.10	0.61
Pneumonia	21 (1.8)	21 (3.8)	0.01	10 (3.6)	0.06	0.90
Prolonged air leak	70 (6.0)	71 (12.9)	<0.01	36 (13.1)	<0.01	0.93
Empyema	2 (0.2)	0 (0.0)	0.33	1 (0.4)	0.53	0.16
Chylothorax	16 (1.4)	5 (0.9)	0.41	3 (1.1)	0.71	0.80
DVT/PE	5 (0.4)	1 (0.2)	0.42	1 (0.4)	0.88	0.62
Perioperative mortality	6 (0.5)	7 (1.3)	0.09	2 (0.7)	0.67	0.48
After lobectomy						
Any postoperative complications	168 (19.0)	113 (31.8)	<0.01	49 (35.5)	<0.01	0.47
Atrial fibrillation	88 (9.9)	53 (14.9)	0.01	24 (17.3)	0.01	0.52
Pneumonia	21 (2.4)	17 (4.8)	0.03	7 (5.0)	0.07	0.91
Prolonged air leak	61 (6.9)	51 (14.4)	<0.01	22 (15.8)	<0.01	0.68
Empyema	2 (0.2)	0 (0)	0.37	1 (0.7)	0.32	0.11
Chylothorax	14 (1.6)	5 (1.4)	0.82	3 (2.2)	0.62	0.55
DVT/PE	4 (0.5)	1 (0.3)	0.67	0 (0)	0.43	0.53
Perioperative mortality	3 (0.3)	6 (1.7)	0.01	0 (0)	0.49	0.12

^acompared with non-COPD; ^bcomparison between incidental COPD and prior COPD. Any postoperative complications defined as any complications recorded for each individual patient. DVT/PE: deep vein thrombosis/pulmonary embolism.

Table S3 Demographics of patients included in the SNP cohort

	Non-COPD (n=1,134)	Incidental COPD (n=203)	Prior COPD (n=212)	Total (n=1,549)	P value
Age (years)	64.3±11.4	68.1±8.9	69.0±9.1	65.4±10.9	<0.01
Sex					<0.01
Male	508 (44.8)	119 (58.6)	108 (50.9)	735 (47.4)	
Female	626 (55.2)	84 (41.4)	104 (49.1)	814 (52.6)	
Race					0.07
White	1,033 (91.1)	193 (95.1)	200 (94.3)	1,426 (92.1)	
Non-white	101 (8.9)	10 (4.9)	12 (5.7)	123 (7.9)	
Smoking status					<0.01
Never	591 (52.1)	30 (14.8)	27 (12.7)	648 (41.8)	
Former	246 (30.5)	106 (52.2)	127 (59.9)	579 (37.4)	
Current	197 (17.4)	67 (33.0)	58 (27.4)	322 (20.8)	
Histology					<0.01
Adenocarcinoma	804 (70.9)	122 (60.1)	144 (53.8)	1,040 (67.1)	
Squamous cell	153 (13.5)	59 (29.1)	71 (33.5)	283 (18.3)	
Other NSCLC	177 (15.6)	22 (10.8)	27 (12.7)	226 (14.6)	

NSCLC: non-small cell lung cancer.