



Figure S1 Optimal size threshold for T1a/b testicular cancer classification. AUC, area under the curve; TP, true positive; FP, false positive.

Table S1 Best cut-off value of tumor size determined by time-dependent ROC curve. Best binning point =34 mm (bold words)

Tumor size (mm)	TP	FP	Cutoff index
1	0.992679	1.00019	-0.00751
2	0.992279	0.999103	-0.00682
3	0.992513	0.998618	-0.0061
4	0.992398	0.997518	-0.00512
5	0.985231	0.99533	-0.0101
6	0.985176	0.990751	-0.00558
7	0.97295	0.986592	-0.01364
8	0.9739	0.980859	-0.00696
9	0.973421	0.974088	-0.00067
10	0.966534	0.956403	0.010131
11	0.967872	0.947649	0.020223
12	0.96362	0.931577	0.032043
13	0.957568	0.919856	0.037711
14	0.937835	0.908787	0.029049
15	0.934349	0.871822	0.062527
16	0.932306	0.858647	0.073659
17	0.917983	0.844001	0.073982
18	0.898527	0.82328	0.075247
19	0.881952	0.813167	0.068785
20	0.865061	0.767991	0.09707
21	0.868948	0.75643	0.112519
22	0.844846	0.736246	0.108601
23	0.841585	0.72376	0.117825
24	0.842056	0.713626	0.128431
25	0.821084	0.670698	0.150386
26	0.817863	0.660423	0.157439
27	0.812436	0.646777	0.165659
28	0.807446	0.630424	0.177022
29	0.804538	0.623136	0.181402
30	0.758843	0.574591	0.184252
31	0.757479	0.566913	0.190565
32	0.738586	0.549642	0.188945
33	0.734634	0.540349	0.194284
34	0.73426	0.531519	0.202741
35	0.661438	0.488214	0.173224
36	0.658522	0.480136	0.178386
37	0.607264	0.472936	0.134328
38	0.603625	0.458573	0.145052
39	0.600223	0.452256	0.147967
40	0.56143	0.40275	0.15868
41	0.562161	0.396869	0.165292
42	0.550141	0.384011	0.16613
43	0.551118	0.377328	0.17379
44	0.549302	0.370936	0.178366
45	0.514488	0.326297	0.188191
46	0.511852	0.320102	0.191749
47	0.501674	0.312528	0.189146
48	0.492727	0.302052	0.190675
49	0.490924	0.299135	0.191789
50	0.41664	0.255899	0.160741
51	0.413948	0.252393	0.161554
52	0.41602	0.244869	0.171151
53	0.416083	0.23902	0.177064
54	0.415636	0.233195	0.182441
55	0.343515	0.202338	0.141177
56	0.330212	0.198073	0.13214
57	0.324656	0.194071	0.130585
58	0.324846	0.18711	0.137736
59	0.321239	0.183963	0.137276
60	0.270989	0.152857	0.118132
61	0.270064	0.151005	0.119059
62	0.2632	0.146275	0.116925
63	0.262663	0.142824	0.119839
64	0.262536	0.141092	0.121444
65	0.226606	0.119891	0.106715
66	0.221304	0.118247	0.103057
67	0.222124	0.116312	0.105812
68	0.225148	0.112376	0.112772
69	0.223949	0.111011	0.112938
70	0.21609	0.086894	0.129196
71	0.215999	0.085951	0.130049
72	0.211995	0.083613	0.128382
73	0.212632	0.081529	0.131104
74	0.210741	0.079723	0.131018
75	0.189391	0.069362	0.120029
76	0.190612	0.068198	0.122415
77	0.190614	0.067408	0.123207
78	0.184494	0.066119	0.118375
79	0.185418	0.065601	0.119817
80	0.119766	0.050869	0.068898
81	0.118327	0.049673	0.068654
82	0.118518	0.048716	0.069802
83	0.115437	0.047757	0.06768
84	0.116305	0.047399	0.068905
85	0.073451	0.040431	0.03302
86	0.07271	0.039993	0.032718
87	0.073017	0.038714	0.034303
88	0.072952	0.038401	0.034551
90	0.062706	0.029566	0.033139
91	0.062264	0.028955	0.033309
92	0.061774	0.028663	0.033112
93	0.061092	0.028063	0.033029
94	0.061009	0.027593	0.033416
95	0.060701	0.023499	0.037202
96	0.060952	0.02333	0.037622
97	0.061098	0.022849	0.038249
98	0.061471	0.022357	0.039114
100	0.052039	0.015537	0.036502
102	0.051582	0.015401	0.036181
105	0.045344	0.014434	0.030911
108	0.044912	0.014296	0.030616
109	0.044515	0.014157	0.030358
110	0.038778	0.010954	0.027824
115	0.040576	0.010078	0.030497
116	0.039693	0.009804	0.029889
119	0.039967	0.009475	0.030492
120	0.030071	0.007102	0.022969
121	0.0255	0.007161	0.018339
123	0.025198	0.007018	0.01818
125	0.013246	0.006638	0.006608
128	0.013048	0.00649	0.006559
129	0.012966	0.006335	0.00663
130	0.013328	0.005054	0.008274
135	0.013421	0.004418	0.009004
140	0.013849	0.003765	0.010084
145	0.01286	0.003496	0.009363
150	0.013271	0.002371	0.0109
157	0.013525	0.002201	0.011325
160	0.012774	0.002078	0.010695
165	0.013009	0.001909	0.0111
170	0.012458	0.001778	0.01068
190	0.012684	0.001609	0.011075
200	0.007973	0.001517	0.006456
210	0.00406	0.001545	0.002515
220	0.004153	0.001383	0.00277
250	0.004271	0.001219	0.003052
260	0.004429	0.001053	0.003376
270	0.003876	0.000922	0.002954
350	0.003986	0.000758	0.003228
400	0	0.00079	-0.00079
550	0	0.000632	-0.00063
560	0	0.000474	-0.00047
580	0	0.000316	-0.00032
650	0	0.000158	-0.00016
730	0	0	0

ROC, receiver operation curve; TP, true positive; FP, false positive.

Table S2 Comparison of clinical patient characteristics between tumor size >34 mm and tumor size ≤34 mm groups before and after propensity score matching in overall cohort

Parameters	Before propensity matching (n=6630)			After propensity matching (n=5968)		
	Size ≤34 mm (n=3045)	Size >34 mm (n=3585)	P	Size ≤34 mm (n=2984)	Size >34 mm (n=2984)	P
Age, years (mean ± SD)	34.64±10.53	35.64±11.36	<0.001	34.78±10.55	34.99±11.10	0.464
Race (n, %)			<0.001			0.577
White	2771 (91.0)	3115 (86.9)		2713 (90.9)	2700 (90.5)	
Black	78 (2.6)	122 (3.4)		76 (2.5)	89 (3.0)	
Asian or Pacific Islander	101 (3.3)	210 (5.9)		100 (3.4)	113 (3.8)	
American Indian/Alaska Native	19 (0.6)	22 (0.6)		19 (0.6)	15 (0.5)	
Unknown	76 (2.5)	116 (3.2)		76 (2.5)	67 (2.2)	
Marital status (n, %)			<0.001			0.119
In marriage	1414 (46.4)	1507 (42.0)		1384 (46.4)	1306 (43.8)	
Not in marriage	1403 (46.1)	1831 (51.1)		1403 (47.0)	1464 (49.1)	
Unknown	228 (7.5)	247 (6.9)		197 (6.6)	214 (7.2)	
Laterality (n, %)			0.124			>0.99
Left	1455 (47.8)	1623 (45.3)		1409 (47.2)	1408 (47.2)	
Right	1586 (52.1)	1957 (54.6)		1571 (52.6)	1572 (52.7)	
Unknown/both	4 (0.1)	5 (0.1)		4 (0.1)	4 (0.1)	
Grade (n, %)			0.092			0.528
Well-differentiated: grade I	16 (0.5)	32 (0.9)		15 (0.5)	14 (0.5)	
Moderately differentiated: grade II	7 (0.2)	10 (0.3)		7 (0.2)	3 (0.1)	
Poorly differentiated: grade III	11 (0.4)	23 (0.6)		11 (0.4)	15 (0.5)	
Undifferentiated: grade IV	11 (0.4)	22 (0.6)		11 (0.4)	16 (0.5)	
Unknown	3000 (98.5)	3498 (97.6)		2940 (98.5)	2936 (98.4)	
Chemotherapy (n, %)	334 (11.0)	583 (16.3)	<0.001	334 (11.2)	353 (11.8)	0.465
Radiation therapy (n, %)	648 (21.3)	757 (21.1)	0.894	639 (21.4)	632 (21.2)	0.850

Table S3 Comparison of clinical patient characteristics between tumor size >34 mm and tumor size ≤34 mm groups before and after propensity score matching in non-seminoma cohort

Parameters	Before propensity matching (n=2321)			After propensity matching (n=1862)		
	Size ≤34 mm (n=1029)	Size >34 mm (n=1292)	P	Size ≤34 mm (n=931)	Size >34 mm (n=931)	P
Age, years (mean ± SD)	30.59±9.65	30.32±10.27	0.522	29.86±9.02	30.63±9.37	0.072
Race (n, %)			0.072			0.654
White	926 (90.0)	1129 (87.4)		844 (90.7)	844 (90.7)	
Black	35 (3.4)	38 (2.9)		27 (2.9)	18 (1.9)	
Asian or Pacific Islander	41 (4.0)	75 (5.8)		39 (4.2)	44 (4.7)	
American Indian/Alaska Native	6 (0.6)	6 (0.5)		5 (0.5)	6 (0.6)	
Unknown	21 (2.0)	44 (3.4)		16 (1.7)	19 (2.0)	
Marital status (n, %)			<0.001			0.697
In marriage	365 (35.5)	360 (27.9)		303 (32.5)	296 (31.8)	
Not in marriage	593 (57.6)	829 (64.2)		569 (61.1)	567 (60.9)	
Unknown	71 (6.9)	103 (8.0)		59 (6.3)	68 (7.3)	
Laterality (n, %)			0.580			0.579
Left	475 (46.2)	570 (44.1)		419 (45.0)	426 (45.8)	
Right	553 (53.7)	720 (55.7)		511 (54.9)	505 (54.2)	
Unknown/both	1 (0.1)	2 (0.2)		1 (0.1)	0 (0.0)	
Grade (n, %)			0.630			0.151
Well-differentiated: grade I	5 (0.5)	5 (0.4)		5 (0.5)	0 (0.0)	
Moderately differentiated: grade II	5 (0.5)	7 (0.5)		3 (0.3)	4 (0.4)	
Poorly differentiated: grade III	10 (1.0)	18 (1.4)		7 (0.8)	11 (1.2)	
Undifferentiated: grade IV	5 (0.5)	12 (0.9)		5 (0.5)	8 (0.9)	
Unknown	1004 (97.6)	1250 (96.7)		911 (97.9)	908 (97.5)	
Chemotherapy (n, %)	154 (15.0)	276 (21.4)	<0.001	136 (14.6)	136 (14.6)	>0.99
Radiation therapy (n, %)	8 (0.8)	7 (0.5)	0.658	2 (0.2)	2 (0.2)	>0.99