

# Munich Cancer Registry



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<http://www.tumorregister-muenchen.de/en>

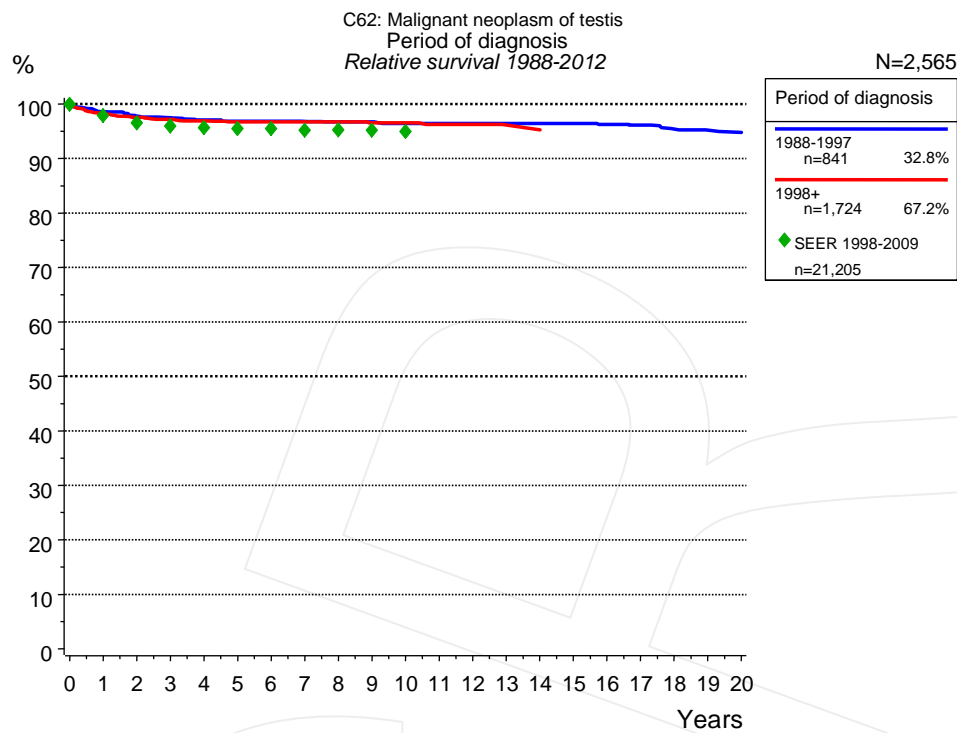
## Cancer statistics: Survival

### C62: Testicular cancer

Year of diagnosis	1988-2012
Patients	3,724
Diseases	3,806
Cases evaluated	2,565
Creation date	03/25/2014
Export date	02/12/2014
Population (males)	2.2 m



[http://www.tumorregister-muenchen.de/en/facts/surv/surv\\_C62\\_\\_E.pdf](http://www.tumorregister-muenchen.de/en/facts/surv/surv_C62__E.pdf)



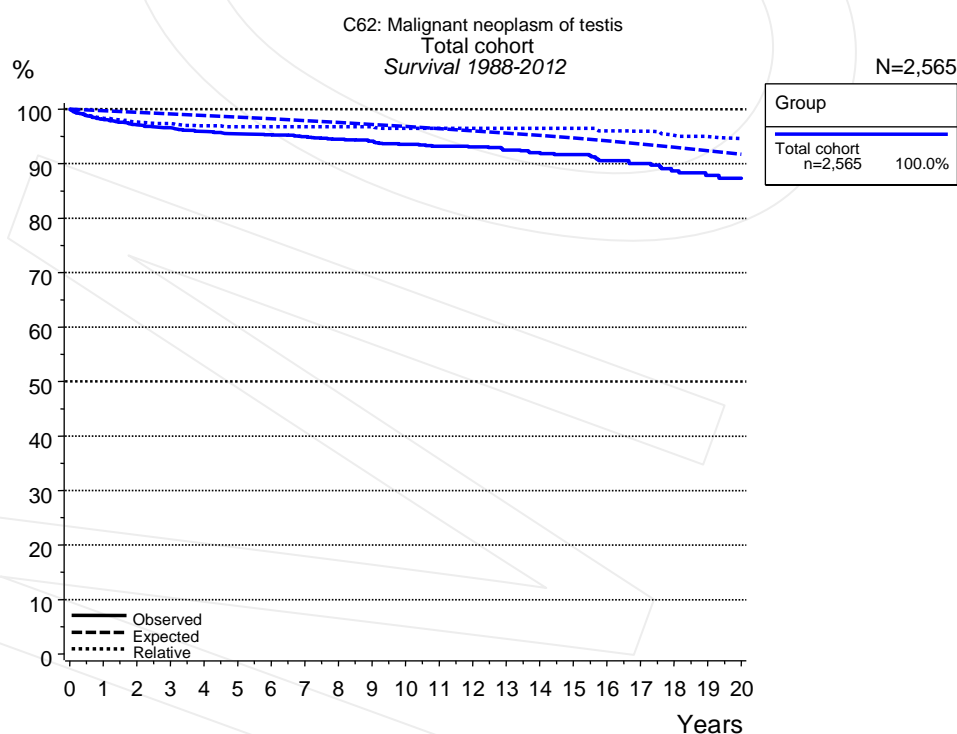
**Figure 1a.** Relative survival of patients with testicular cancer by period of diagnosis. Included in the evaluation are 2,565 cases diagnosed between 1988 and 2012.

The survival results of the SEER program (Surveillance, Epidemiology, and End Results) of the American National Cancer Institute (NCI) are summarized as the period of diagnosis from 1998 to 2009, and are represented by green diamonds in order to facilitate comparisons between MCR and SEER.

The presented survival curves are derived from clinical records with valid follow-up informations, which means that death certificate cases (DCO) cases are omitted from the analysis. With this one restriction, the MCR has provided population-based statistics since 1988, collecting data on all cancer cases in the region of southern Bavaria. Historical data of previous time periods can be heavily selected, therefore, univariate survival comparisons of the presented time periods must be carefully considered. Nonetheless, all calculable survival curves are depicted to facilitate the comparison of long time follow-up analyses of relative survival between particular cancers.

Years	Period of diagnosis			
	1988-1997		1998+	
	n=841		n=1,724	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	98.3	98.6	98.0	98.2
2	97.2	97.8	97.0	97.5
3	96.6	97.5	96.5	97.2
4	96.0	97.1	95.9	96.9
5	95.5	96.8	95.5	96.7
6	95.3	96.8	95.3	96.7
7	94.7	96.8	95.3	96.7
8	94.3	96.7	94.7	96.7
9	94.2	96.7	93.9	96.5
10	93.4	96.4	93.9	96.5
11	93.2	96.4	93.0	96.2
12	93.1	96.4	93.0	96.2
13	92.5	96.4	92.1	96.1
14	92.0	96.4	92.1	95.3
15	91.8	96.4		
16	90.7	96.2		
17	90.1	96.2		
18	88.8	95.4		
19	88.0	95.2		
20	87.4	94.8		

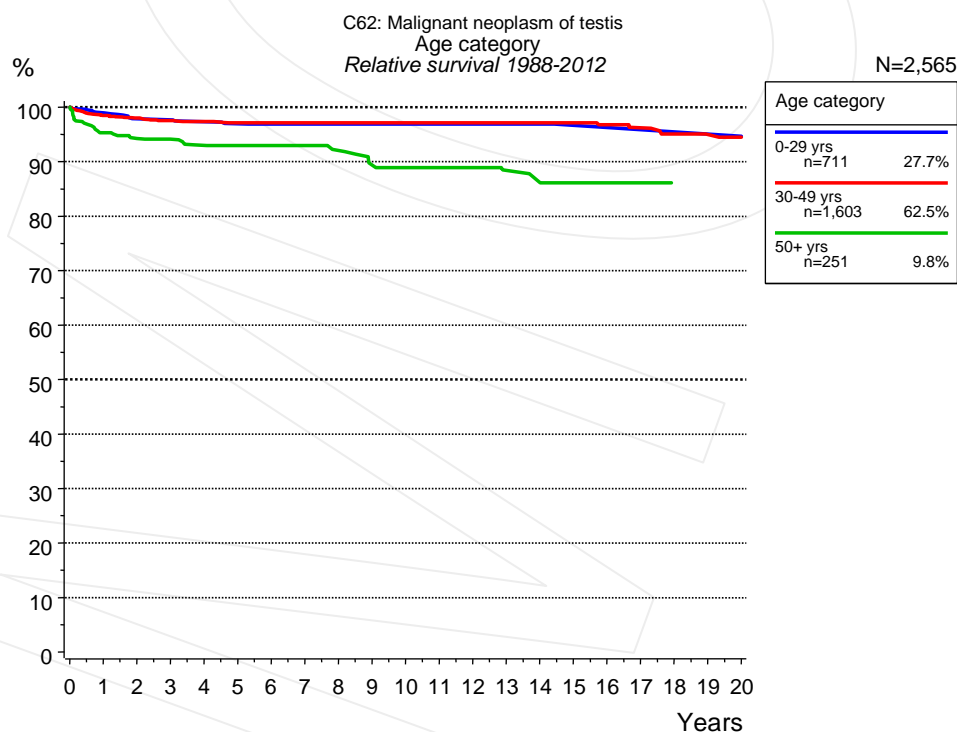
**Table 1b.** Observed (obs.) and relative (rel.) survival of patients with testicular cancer by period of diagnosis for period 1988-2012 (N=2,565).



**Figure 2a.** Observed, expected and relative survival of the total cohort with testicular cancer. Included in the evaluation are 2,565 cases diagnosed between 1988 and 2012.

Years	Group	
	Total cohort n=2,565	
	obs. %	rel. %
0	100.0	100.0
1	98.1	98.3
2	97.1	97.6
3	96.5	97.3
4	95.9	97.0
5	95.4	96.8
6	95.3	96.8
7	94.9	96.8
8	94.5	96.8
9	94.1	96.8
10	93.5	96.5
11	93.2	96.5
12	93.1	96.5
13	92.5	96.5
14	92.0	96.5
15	91.7	96.5
16	90.6	96.0
17	90.0	96.0
18	88.7	95.2
19	87.9	95.0
20	87.4	94.6

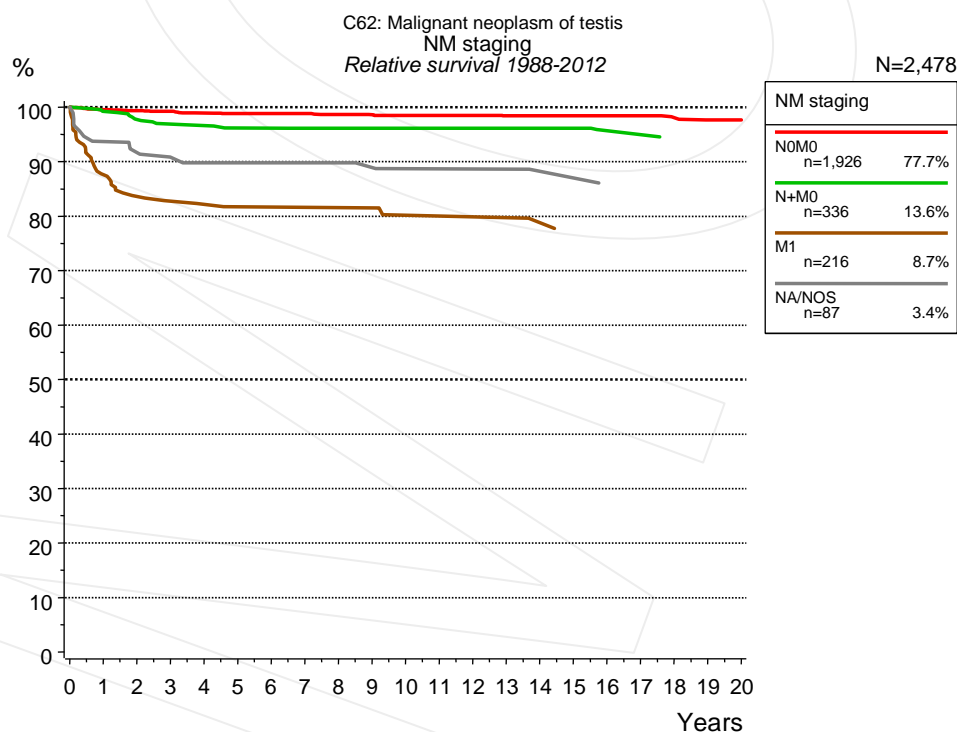
**Table 2b.** Observed (obs.) and relative (rel.) survival of the total cohort with testicular cancer for period 1988-2012 (N=2,565).



**Figure 3a.** Relative survival of patients with testicular cancer by age category. Included in the evaluation are 2,565 cases diagnosed between 1988 and 2012.

Years	Age category					
	0-29 yrs n=711		30-49 yrs n=1,603		50+ yrs n=251	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	99.0	98.9	98.3	98.5	94.0	95.3
2	97.8	97.9	97.7	98.0	91.4	94.3
3	97.6	97.7	97.1	97.6	89.9	94.1
4	97.1	97.3	96.7	97.4	87.8	93.0
5	96.7	97.0	96.2	97.1	87.3	93.0
6	96.4	96.9	96.1	97.1	87.3	93.0
7	96.4	96.9	96.0	97.1	84.1	93.0
8	96.4	96.9	95.7	97.1	80.8	92.0
9	96.4	96.9	95.7	97.1	77.0	89.4
10	96.4	96.9	94.9	97.1	75.9	88.9
11	96.4	96.9	94.6	97.1	74.7	88.9
12	96.4	96.9	94.3	97.1	74.7	88.9
13	96.4	96.9	94.1	97.1	69.9	88.4
14	96.4	96.9	93.5	97.1	68.1	86.2
15	95.9	96.7	93.5	97.1	66.3	86.1
16	95.9	96.2	91.9	96.8	64.1	86.1
17	95.9	95.8	91.0	96.2	64.1	86.1
18	95.9	95.4	89.2	95.1	60.7	84.9
19	95.9	95.0	88.4	95.0		
20	95.9	94.6	87.5	94.5		

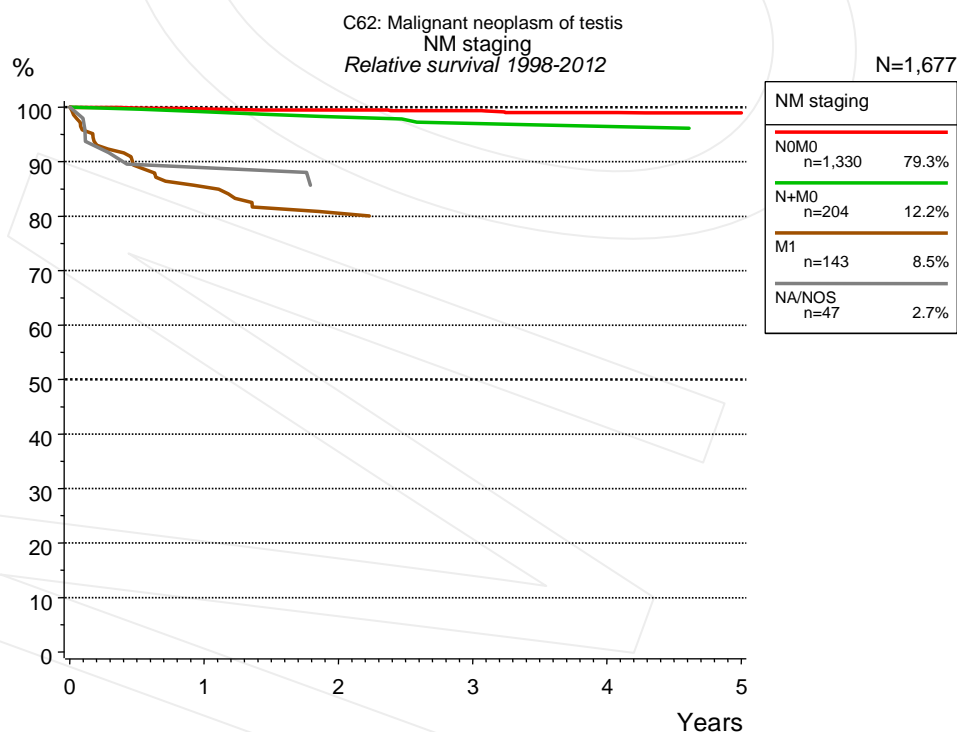
**Table 3b.** Observed (obs.) and relative (rel.) survival of patients with testicular cancer by age category for period 1988-2012 (N=2,565).



**Figure 4a.** Relative survival of patients with testicular cancer by NM staging. For 2,479 of 2,565 cases diagnosed between 1988 and 2012 valid data could be obtained for this item. For a total of 2,478 cases an evaluable classification was established. The grey line represents the subgroup of 87 patients with missing values regarding NM staging (3.4% of 2,565 patients, the percent values of all other categories are related to n=2,478).

Years	NM staging							
	N0M0 n=1,926		N+M0 n=336		M1 n=216		NA/NOS n=87	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1	99.3	99.5	99.1	99.2	87.6	87.6	93.1	93.7
2	98.8	99.4	97.5	97.7	83.4	83.6	90.6	91.7
3	98.5	99.2	96.5	96.9	82.3	82.7	88.1	90.8
4	97.9	98.9	96.1	96.6	81.6	82.2	86.8	89.8
5	97.5	98.8	95.3	96.2	80.9	81.7	86.8	89.8
6	97.3	98.8	95.3	96.1	80.9	81.7	86.8	89.8
7	96.9	98.8	94.8	96.1	80.9	81.6	86.8	89.8
8	96.4	98.7	94.8	96.1	80.9	81.6	85.0	89.8
9	96.0	98.6	94.8	96.1	80.9	81.5	83.2	88.9
10	95.6	98.5	94.8	96.1	78.5	80.2	81.3	88.7
11	95.2	98.5	94.8	96.1	78.5	80.0	81.3	88.7
12	95.0	98.5	94.8	96.1	78.5	79.9	81.3	88.7
13	94.2	98.4	94.8	96.1	78.5	79.7	81.3	88.6
14	94.0	98.4	94.8	96.1	76.7	78.8	78.6	88.2
15	93.7	98.4	94.8	96.1	74.6	77.0	78.6	87.0
16	93.1	98.4	91.7	95.7	74.6	75.7	75.3	85.3
17	92.3	98.4	91.7	95.0	74.6	74.4	75.3	82.2
18	91.4	98.1	89.6	94.1	74.6	73.1		
19	90.2	97.6	89.6	93.2	74.6	71.8		
20	90.2	97.6	89.6	92.2				

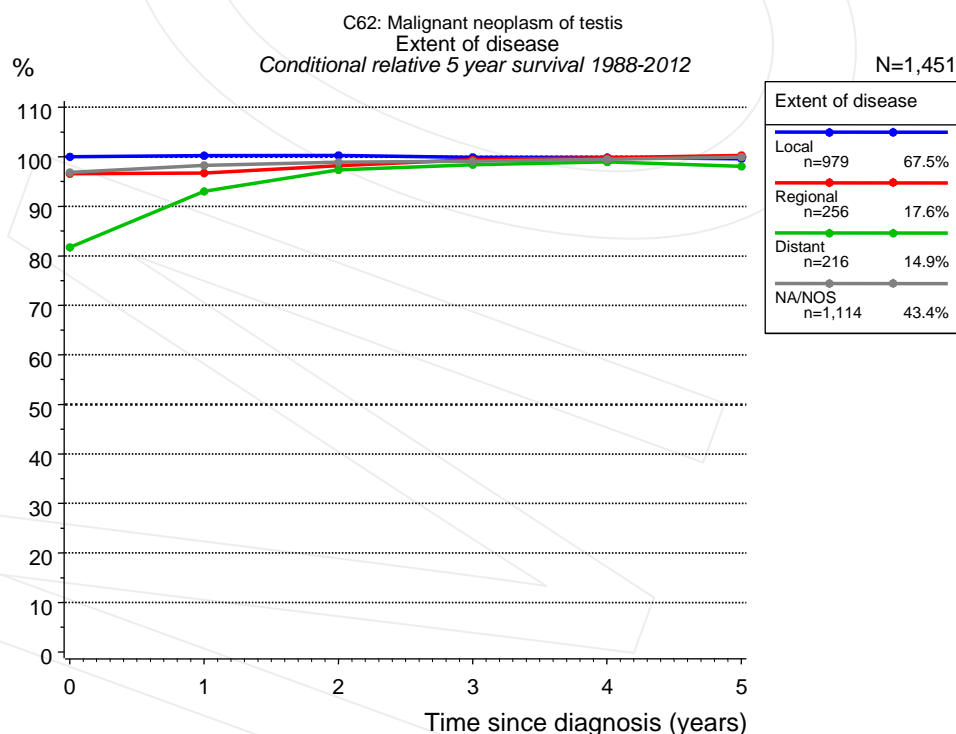
**Table 4b.** Observed (obs.) and relative (rel.) survival of patients with testicular cancer by NM staging for period 1988-2012 (N=2,478).



**Figure 4c.** Relative survival of patients with testicular cancer by NM staging. For 1,677 of 1,724 cases diagnosed between 1998 and 2012 valid data could be obtained for this item. The grey line represents the subgroup of 47 patients with missing values regarding NM staging (2.7% of 1,724 patients, the percent values of all other categories are related to n=1,677).

Years	NM staging							
	N0M0 n=1,330		N+M0 n=204		M1 n=143		NA/NOS n=47	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1	99.5	99.7	99.0	99.1	85.4	85.3	89.3	88.9
2	99.1	99.5	97.9	98.2	80.5	80.6		
3	98.7	99.4	96.7	97.0				
4	98.0	99.0	96.1	96.5				
5	97.6	98.9						

**Table 4d.** Observed (obs.) and relative (rel.) survival of patients with testicular cancer by NM staging for period 1998-2012 (N=1,677).

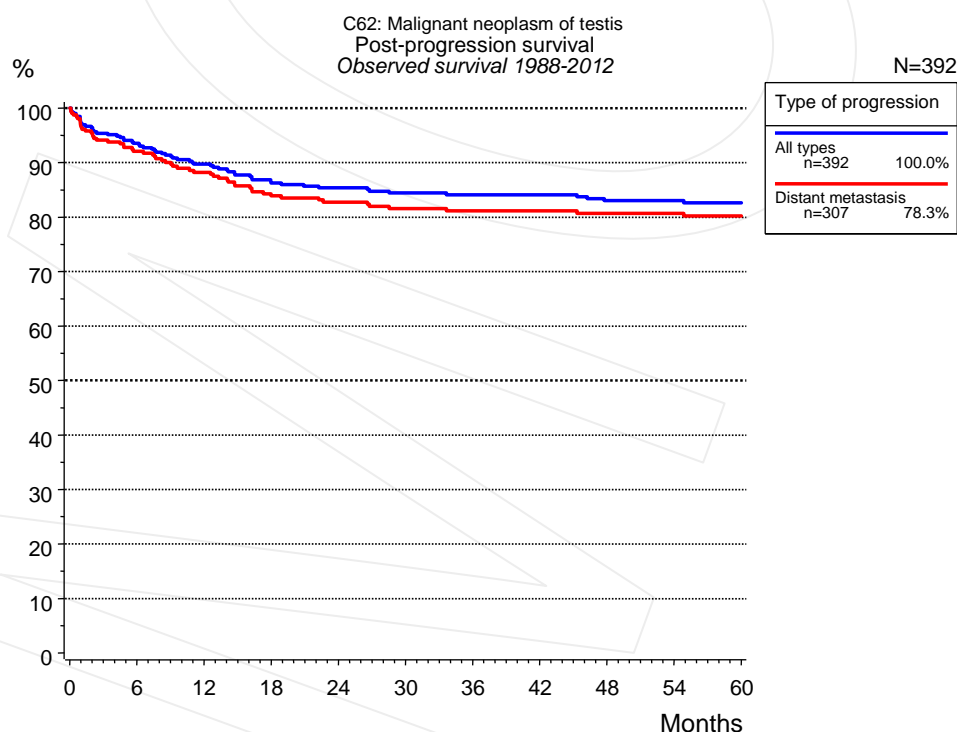


**Figure 4e.** Conditional relative 5-year survival of patients with testicular cancer by extent of disease. For 2,479 of 2,565 cases diagnosed between 1988 and 2012 valid data could be obtained for this item. For a total of 1,451 cases an evaluable classification was established. The grey line represents the subgroup of 1,114 patients with missing values regarding extent of disease (43.4% of 2,565 patients, the percent values of all other categories are related to n=1,451).

Years	Extent of disease							
	Local		Regional		Distant		NA/NOS	
	n	Cond. surv. % 5 yrs	n	Cond. surv. % 5 yrs	n	Cond. surv. % 5 yrs	n	Cond. surv. % 5 yrs
0	979	100.0	256	96.6	216	81.7	1,114	96.8
1	912	100.2	247	96.7	173	93.0	1,028	98.3
2	844	100.3	236	98.2	153	97.4	917	98.9
3	780	99.9	217	99.4	137	98.4	813	99.1
4	711	99.8	192	99.8	119	98.9	706	99.5
5	645	99.6	174	100.3	104	98.0	622	99.9

**Table 4f.** Conditional relative 5-year survival of patients with testicular cancer by extent of disease for period 1988-2012 (N=1,451).

Conditional relative survival rates refer to the relative survival probability, in this case for 5 years after cancer diagnosis, compared to the age- and sex-matched population (=100%) under the condition of being alive for a certain time period (x-axis in Figure 4c). The results illustrate to what extent the cancer induced mortality of particular subgroups declines in the subsequent years after detection of the malignancy. For instance, according to the presented survival statistics, patients in the subgroup extent of disease="Local", who are alive at least 3 years after cancer diagnosis, the conditional relative 5-year survival rate is 99.9% (n=780).



**Figure 5a.** Observed post-progression survival of 392 patients with testicular cancer diagnosed between 1988 and 2012 (incl. M1). These 392 patients with documented progression events during their course of disease represent 15.3% of the totally 2,565 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=10, 0.4%). Multiple progression types on different sites are included in the evaluation even when not occurring synchronously.

Medical record documentation often lacks the linguistic severity to distinguish between local relapse, regional lymph node metastasis and distant spread in solid cancers. Frequently, the statement "not specified" is the only information in registries regarding relapse of the disease. The category "All types" denotes all cases who suffered from at least one relapse during the course of disease (incl. primary M1-status). Although, the real number of relapsed patients is likely to be much higher. The accumulated percentage of patients with local relapse or distant metastasis exceeds the 100% value because patients are potentially considered in more than one subgroup.

Months	Type of progression	
	All types	Distant metastasis
	n=392	n=307
	%	%
0	100.0	100.0
12	89.7	88.2
24	85.4	82.8
36	84.1	81.2
48	83.0	80.7
60	82.6	80.2

**Table 5b.** Observed post-progression survival of patients with testicular cancer for period 1988-2012 (N=392).

## Shortcuts

AS	Assembled survival chart (observed, expected, relative)
CS	Conditional survival
DCO	Death certificate only. The death certificate provides the only notification to the registry.
MCR	Munich Cancer Registry, Germany (Tumorregister München)
NA	Not available
NCI	National Cancer Institute, USA
NOS	Not otherwise specified
OS	Observed/overall survival (Kaplan-Meier estimate)
PPS	Post-progression survival
RS	Relative Survival. Ratio of observed and expected survival (derived from the normal population)
SEER	Surveillance, Epidemiology, and End Results, USA
TTP	Time to progression Date of entry: Date of diagnosis Event (Progression): First local recurrence, lymph node relapse or distant metastasis, unspecified recurrence First all-cause recurrence is illustrated by survival curves (Kaplan-Meier estimate). First local recurrence, lymph node relapse or distant metastasis are depicted cumulatively, where applicable ("reverse" Kaplan-Meier estimate).
UICC	Union for International Cancer Control, Geneva

## Recommended Citation

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