

Munich Cancer Registry



- ▶ Incidence and Mortality
- ▶ Selection Matrix
- ▶ Homepage
- ▶ *Deutsch*

ICD-10 C62: Testicular cancer

Survival

| | | |
|--------------------|------------|-----------|
| Year of diagnosis | 1988-1997 | 1998-2019 |
| Patients | 940 | 4,145 |
| Diseases | 956 | 4,239 |
| Cases evaluated | 908 | 3,900 |
| Creation date | 01/27/2021 | |
| Database export | 01/07/2021 | |
| Population (males) | 2.43 m | |



Munich Cancer Registry
Cancer Registry Bavaria - Upper Bavaria Regional Center
at Klinikum Grosshadern/IBE
Marchioninstr. 15
Munich, 81377
Germany

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

https://www.tumorregister-muenchen.de/en/facts/surv/sC62__E-ICD-10-C62-Testicular-cancer-survival.pdf

Index of figures and tables

| Fig./Tbl. | | Page |
|-----------|---|------|
| 1a | Relative survival by period of diagnosis (chart) | 3 |
| 1b | Survival by period of diagnosis (table) | 3 |
| 2a | Survival of total cohort (chart) | 4 |
| 2b | Survival of total cohort (table) | 4 |
| 3a | Relative survival by age category (chart) | 5 |
| 3b | Survival by age category (table) | 5 |
| 4c | Conditional survival by extent of disease (chart) | 6 |
| 4d | Conditional survival by extent of disease (table) | 6 |
| 4c | Relative survival by NM staging (chart) | 7 |
| 4d | Survival by NM staging (table) | 7 |
| 5a | Time to first progression (chart) | 8 |
| 5b | Time to first progression (table) | 8 |
| 5c | Observed post-progression survival (chart) | 9 |
| 5d | Observed post-progression survival (table) | 9 |
| 5e | Observed post-progression survival by period of progression (chart) | 10 |
| 5f | Observed post-progression survival by period of progression (table) | 10 |

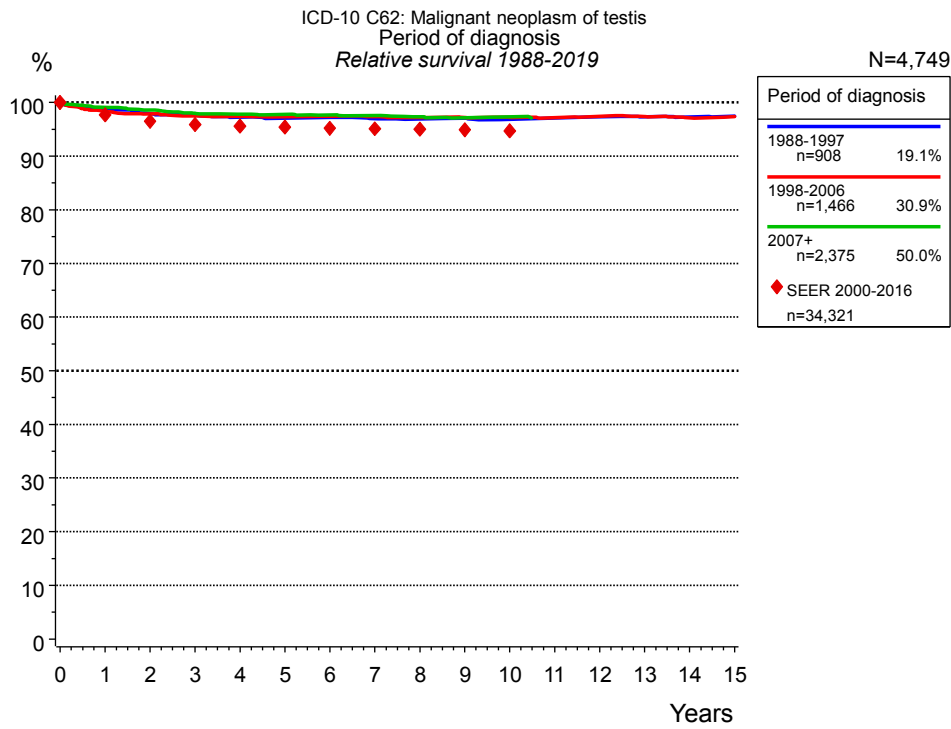


Figure 1a. Relative survival of patients with testicular cancer by period of diagnosis. Included in the evaluation are 4,749 cases diagnosed between 1988 and 2019.

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 2000 to 2016, and are represented by colored 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 1998, 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 n=908 | | 1998-2006 n=1,466 | | 2007+ n=2,375 | |
| | obs. % | rel. % | obs. % | rel. % | obs. % | rel. % |
| 0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1 | 98.4 | 98.7 | 98.1 | 98.3 | 98.9 | 99.1 |
| 2 | 97.4 | 97.9 | 97.4 | 97.9 | 98.2 | 98.6 |
| 3 | 96.8 | 97.6 | 96.8 | 97.5 | 97.3 | 98.0 |
| 4 | 96.2 | 97.3 | 96.4 | 97.4 | 96.9 | 97.8 |
| 5 | 95.7 | 97.1 | 96.0 | 97.3 | 96.6 | 97.8 |
| 6 | 95.6 | 97.2 | 95.8 | 97.4 | 96.2 | 97.7 |
| 7 | 94.9 | 97.0 | 95.4 | 97.4 | 95.9 | 97.6 |
| 8 | 94.6 | 96.9 | 94.9 | 97.2 | 95.3 | 97.3 |
| 9 | 94.4 | 97.1 | 94.6 | 97.2 | 94.8 | 97.2 |
| 10 | 93.8 | 96.8 | 94.2 | 97.2 | 94.8 | 97.4 |
| 11 | 93.7 | 97.1 | 93.8 | 97.2 | | |
| 12 | 93.5 | 97.3 | 93.6 | 97.4 | | |
| 13 | 93.1 | 97.3 | 93.2 | 97.4 | | |
| 14 | 92.7 | 97.3 | 92.4 | 97.1 | | |
| 15 | 92.4 | 97.4 | 92.1 | 97.3 | | |
| Median | | | | | | |

Table 1b. Observed (obs.) and relative (rel.) survival of patients with testicular cancer by period of diagnosis for period 1988-2019 (N=4,749).

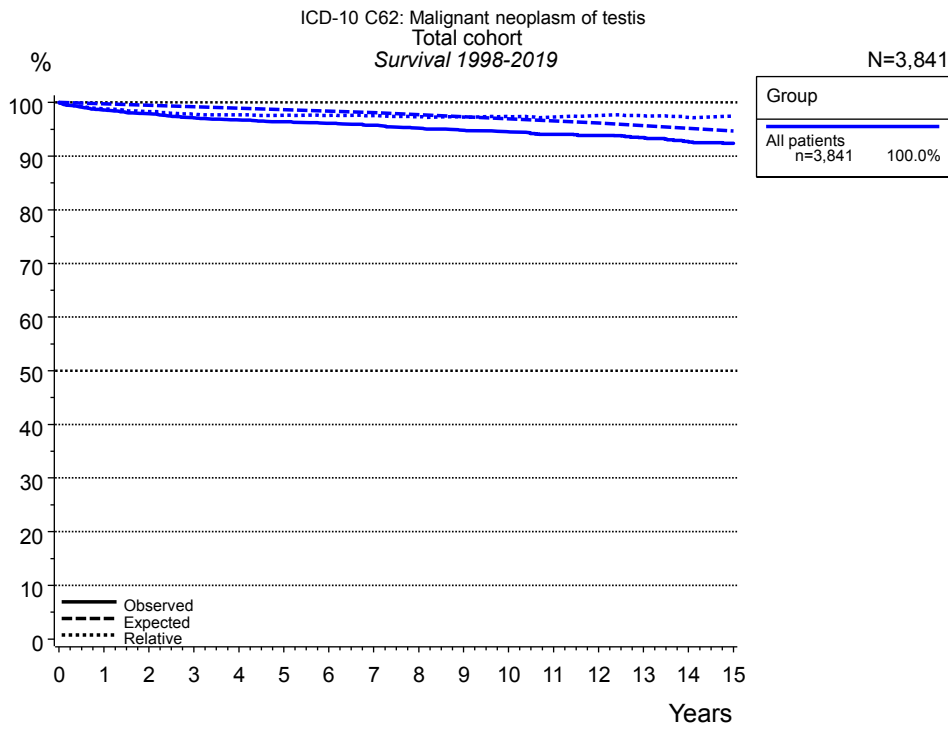


Figure 2a. Observed, expected and relative survival of the total cohort with testicular cancer. Included in the evaluation are 3,841 cases diagnosed between 1998 and 2019.

| Years | Group | |
|--------|-------------------------|--------|
| | obs. % | rel. % |
| | All patients n=3,841 | |
| 0 | 100.0 | 100.0 |
| 1 | 98.6 | 98.8 |
| 2 | 97.9 | 98.3 |
| 3 | 97.1 | 97.8 |
| 4 | 96.7 | 97.7 |
| 5 | 96.4 | 97.6 |
| 6 | 96.1 | 97.6 |
| 7 | 95.7 | 97.6 |
| 8 | 95.2 | 97.3 |
| 9 | 94.8 | 97.3 |
| 10 | 94.5 | 97.4 |
| 11 | 94.0 | 97.3 |
| 12 | 93.9 | 97.6 |
| 13 | 93.4 | 97.5 |
| 14 | 92.7 | 97.3 |
| 15 | 92.4 | 97.5 |
| Median | | |

Table 2b. Observed (obs.) and relative (rel.) survival of the total cohort with testicular cancer for period 1998-2019 (N=3,841).

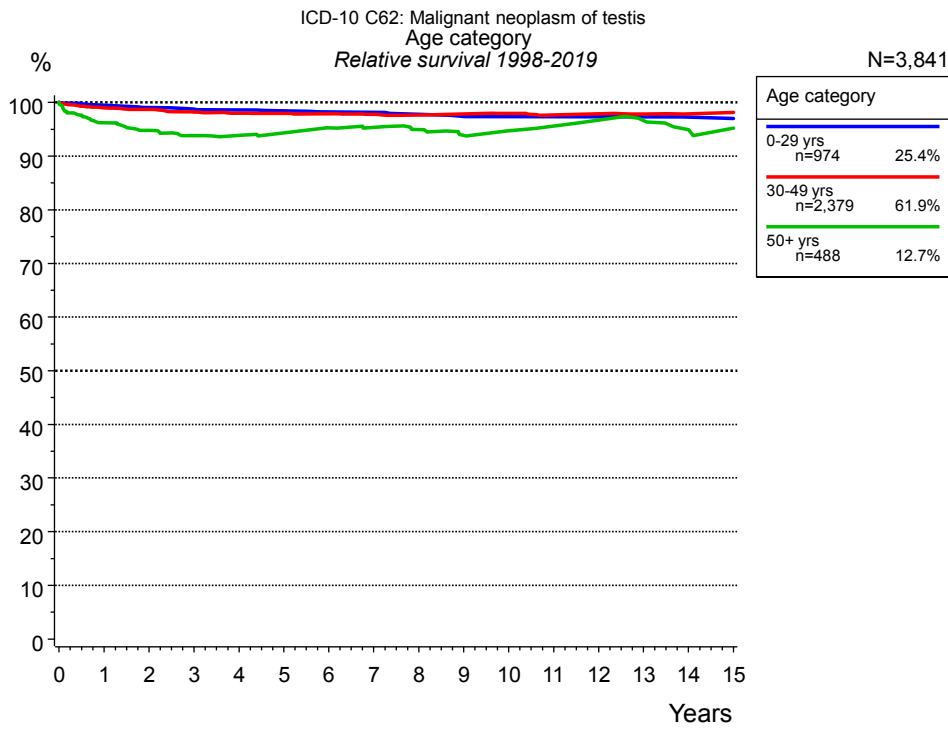


Figure 3a. Relative survival of patients with testicular cancer by age category. Included in the evaluation are 3,841 cases diagnosed between 1998 and 2019.

| Years | Age category | | | | | |
|--------|-------------------|--------|----------------------|--------|------------------|--------|
| | 0-29 yrs n=974 | | 30-49 yrs n=2,379 | | 50+ yrs n=488 | |
| | obs. % | rel. % | obs. % | rel. % | obs. % | rel. % |
| 0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1 | 99.6 | 99.5 | 98.9 | 99.0 | 95.3 | 96.2 |
| 2 | 99.0 | 99.1 | 98.4 | 98.7 | 93.0 | 94.8 |
| 3 | 98.6 | 98.8 | 97.8 | 98.2 | 90.7 | 93.8 |
| 4 | 98.5 | 98.6 | 97.4 | 98.0 | 89.9 | 93.9 |
| 5 | 98.2 | 98.4 | 97.1 | 97.9 | 89.1 | 94.3 |
| 6 | 97.9 | 98.2 | 96.8 | 97.9 | 88.7 | 95.3 |
| 7 | 97.9 | 98.1 | 96.5 | 97.7 | 87.6 | 95.3 |
| 8 | 97.3 | 97.8 | 96.1 | 97.6 | 86.0 | 94.9 |
| 9 | 97.0 | 97.4 | 96.1 | 97.8 | 83.6 | 93.9 |
| 10 | 96.8 | 97.3 | 95.9 | 97.9 | 82.6 | 94.7 |
| 11 | 96.8 | 97.3 | 95.3 | 97.7 | 82.0 | 95.6 |
| 12 | 96.8 | 97.3 | 95.2 | 97.9 | 81.3 | 96.7 |
| 13 | 96.8 | 97.3 | 94.8 | 97.8 | 79.6 | 96.6 |
| 14 | 96.3 | 97.3 | 94.3 | 97.9 | 76.8 | 94.9 |
| 15 | 96.3 | 97.0 | 94.1 | 98.1 | 74.6 | 95.2 |
| Median | | | | | | |

Table 3b. Observed (obs.) and relative (rel.) survival of patients with testicular cancer by age category for period 1998-2019 (N=3,841).

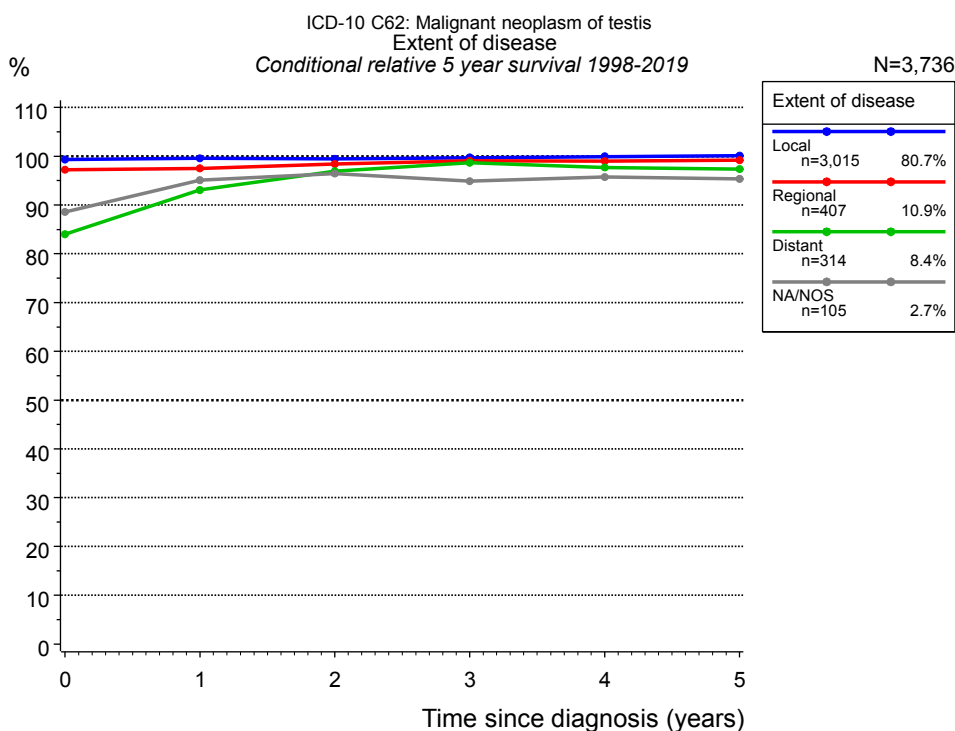


Figure 4c. Conditional relative 5-year survival of patients with testicular cancer by extent of disease. For 3,738 of 3,841 cases diagnosed between 1998 and 2019 valid data could be obtained for this item. For a total of 3,736 cases an evaluable classification was established. The grey line represents the subgroup of 105 patients with missing values regarding extent of disease (2.7 % of 3,841 patients, the percent values of all other categories are related to n=3,736).

| 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 | 3,015 | 99.3 | 407 | 97.2 | 314 | 84.0 | 105 | 88.6 |
| 1 | 2,746 | 99.6 | 374 | 97.5 | 260 | 93.1 | 94 | 95.1 |
| 2 | 2,564 | 99.5 | 359 | 98.4 | 236 | 96.9 | 87 | 96.5 |
| 3 | 2,391 | 99.8 | 340 | 99.1 | 217 | 98.7 | 78 | 94.9 |
| 4 | 2,245 | 100.0 | 330 | 99.0 | 200 | 97.7 | 69 | 95.8 |
| 5 | 2,038 | 100.1 | 303 | 99.2 | 189 | 97.4 | 62 | 95.3 |

Table 4d. Conditional relative 5-year survival of patients with testicular cancer by extent of disease for period 1998-2019 (N=3,736).

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 4a). 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 99.8% (n=2,391).

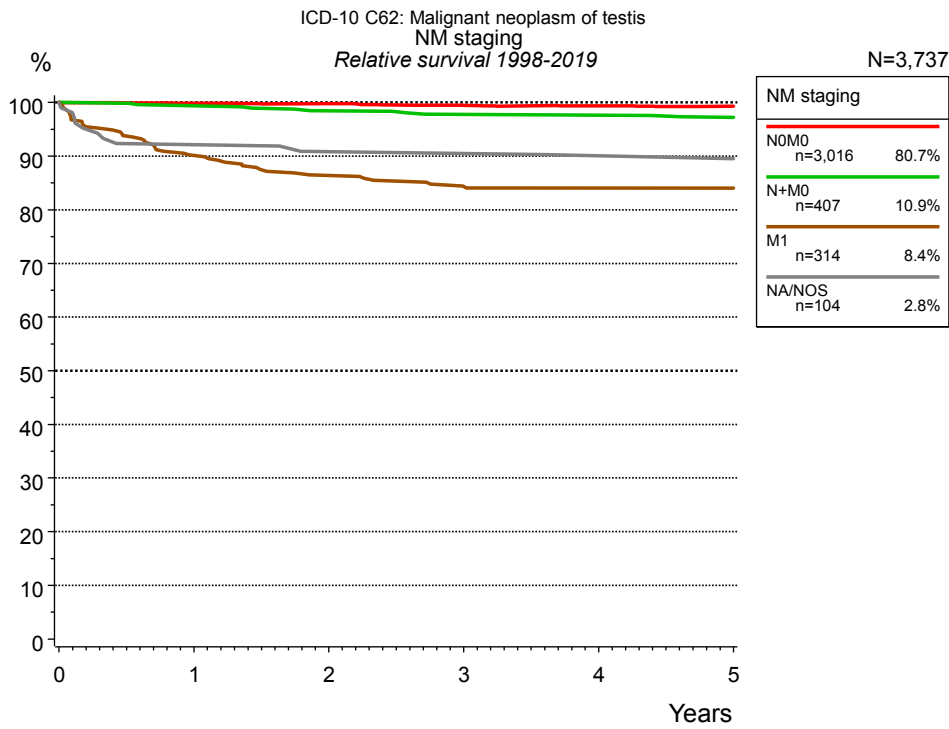


Figure 4c. Relative survival of patients with testicular cancer by NM staging. For 3,738 of 3,841 cases diagnosed between 1998 and 2019 valid data could be obtained for this item. For a total of 3,737 cases an evaluable classification was established. The grey line represents the subgroup of 104 patients with missing values regarding NM staging (2.7 % of 3,841 patients, the percent values of all other categories are related to n=3,737).

| Years | NM staging | | | | | | | |
|--------|-----------------|--------|---------------|--------|-------------|--------|-----------------|--------|
| | NOMO n=3,016 | | N+M0 n=407 | | M1 n=314 | | NA/NOS n=104 | |
| | 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 | 99.6 | 99.8 | 99.2 | 99.4 | 90.0 | 90.1 | 92.2 | 92.1 |
| 2 | 99.4 | 99.8 | 98.1 | 98.5 | 86.1 | 86.4 | 90.1 | 90.8 |
| 3 | 98.7 | 99.5 | 97.3 | 97.8 | 83.9 | 84.4 | 90.1 | 90.5 |
| 4 | 98.3 | 99.3 | 97.0 | 97.6 | 83.5 | 84.0 | 88.8 | 90.1 |
| 5 | 98.0 | 99.3 | 96.4 | 97.2 | 83.5 | 84.0 | 88.8 | 89.5 |
| Median | | | | | | | | |

Table 4d. Observed (obs.) and relative (rel.) survival of patients with testicular cancer by NM staging for period 1998-2019 (N=3,737).

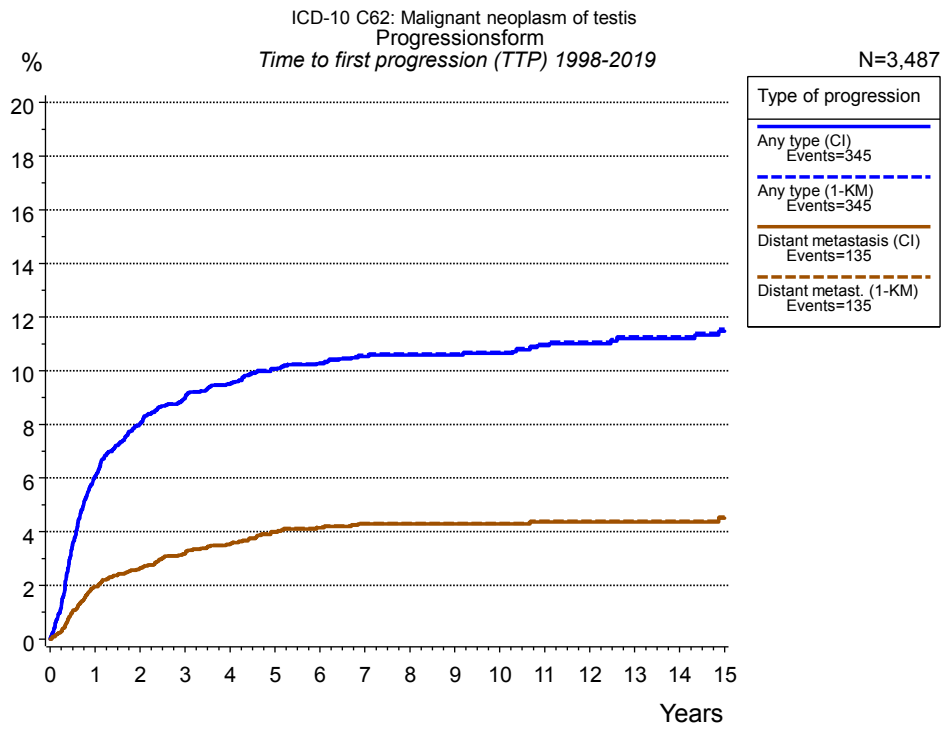


Figure 5a. Time to first progression of 3,487 patients with testicular cancer diagnosed between 1998 and 2019 (in solid cancers M0 only) estimated by cumulative incidence function (CI, solid line) accounting for death as competing risk and by inverse Kaplan-Meier estimate (1-KM, dashed line). The frequency of events may be underestimated due to underreporting.

| | Type of progression | | | |
|---------|---------------------|-----------------|-------------------------|------------------------|
| | Any type (CI) | Any type (1-KM) | Distant metastasis (CI) | Distant metast. (1-KM) |
| N | 3,486 | 3,486 | 3,487 | 3,487 |
| Events | 344 | 344 | 133 | 133 |
| compet. | 85 | | 97 | |
| Years | % | % | % | % |
| 0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 1 | 6.1 | 6.1 | 2.0 | 2.0 |
| 2 | 8.0 | 8.0 | 2.6 | 2.6 |
| 3 | 9.0 | 9.0 | 3.2 | 3.2 |
| 4 | 9.5 | 9.5 | 3.5 | 3.5 |
| 5 | 10.1 | 10.1 | 4.0 | 4.0 |
| 6 | 10.3 | 10.3 | 4.1 | 4.2 |
| 7 | 10.5 | 10.6 | 4.3 | 4.3 |
| 8 | 10.6 | 10.6 | 4.3 | 4.3 |
| 9 | 10.6 | 10.6 | 4.3 | 4.3 |
| 10 | 10.6 | 10.7 | 4.3 | 4.3 |
| 11 | 10.9 | 11.0 | 4.4 | 4.4 |
| 12 | 11.0 | 11.1 | 4.4 | 4.4 |
| 13 | 11.2 | 11.3 | 4.4 | 4.4 |
| 14 | 11.2 | 11.3 | 4.4 | 4.4 |
| 15 | 11.5 | 11.5 | 4.5 | 4.5 |

Table 5b. Time to first progression of patients with testicular cancer for period 1998-2019 (N=3,487), also showing the total of progression events (Events) and of deaths as competing risk (compet.).

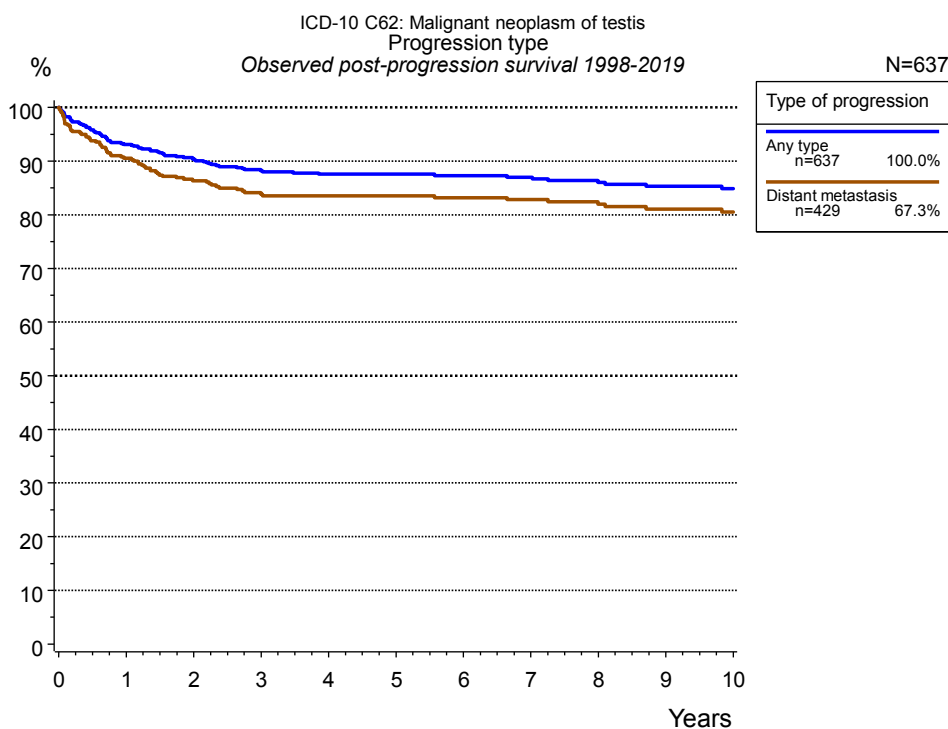


Figure 5c. Observed post-progression survival of 637 patients with testicular cancer diagnosed between 1998 and 2019. These 637 patients with documented progression events during their course of disease represent 16.8 % of the totally 3,794 evaluated cases (incl. M1, n=308, 8.1 %). Patients with cancer relapse documented via death certificates only were excluded (n=16, 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 “Any type” 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.

| Years | Type of progression | |
|-------|------------------------|----------------------------------|
| | Any type n=637 % | Distant metastasis n=429 % |
| 0 | 100.0 | 100.0 |
| 1 | 93.1 | 90.5 |
| 2 | 90.4 | 86.4 |
| 3 | 88.2 | 83.9 |
| 4 | 87.6 | 83.6 |
| 5 | 87.6 | 83.6 |
| 6 | 87.3 | 83.2 |
| 7 | 87.0 | 82.8 |
| 8 | 86.0 | 82.0 |
| 9 | 85.3 | 81.1 |
| 10 | 84.9 | 80.5 |

Table 5d. Observed post-progression survival of patients with testicular cancer for period 1998-2019 (N=637).

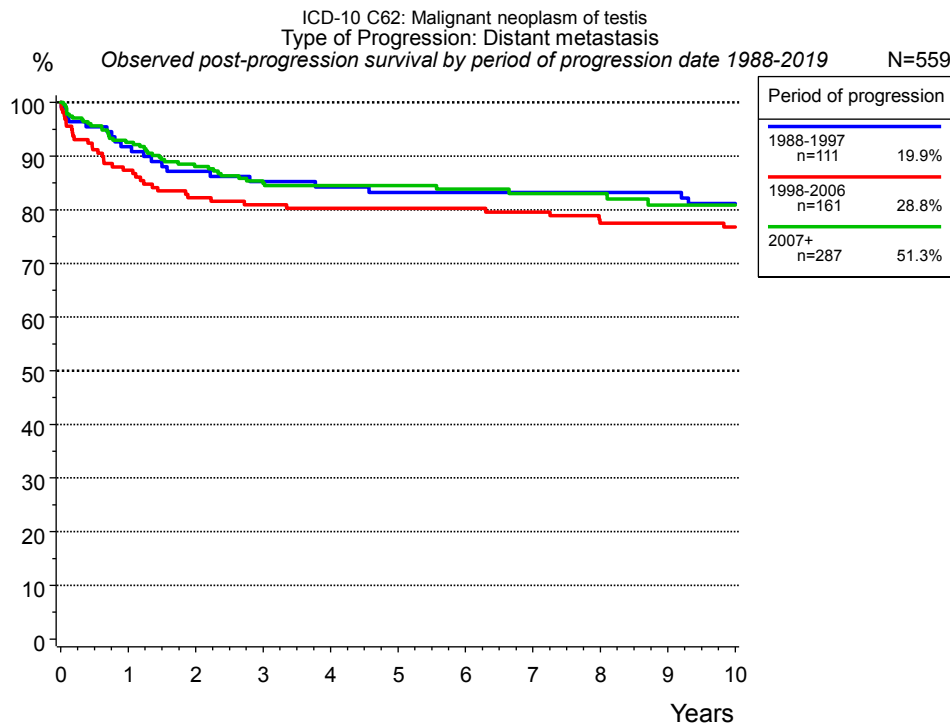


Figure 5e. Observed post-progression (distant metastasis) survival of 559 patients with testicular cancer diagnosed between 1988 and 2019 by period of progression.

| Years | Period of progression | | |
|-------|-------------------------|-------------------------|---------------------|
| | 1988-1997 n=111 % | 1998-2006 n=161 % | 2007+ n=287 % |
| 0 | 100.0 | 100.0 | 100.0 |
| 1 | 91.8 | 87.4 | 92.6 |
| 2 | 87.1 | 82.2 | 88.1 |
| 3 | 85.3 | 80.9 | 84.9 |
| 4 | 84.3 | 80.3 | 84.5 |
| 5 | 83.2 | 80.3 | 84.5 |
| 6 | 83.2 | 80.3 | 83.8 |
| 7 | 83.2 | 79.6 | 83.0 |
| 8 | 83.2 | 77.5 | 83.0 |
| 9 | 83.2 | 77.5 | 80.9 |
| 10 | 81.2 | 76.8 | 80.9 |

Table 5f. Observed post-progression (distant metastasis) survival of patients with testicular cancer for period 1988-2019 by period of progression (N=559).

Shortcuts

MCR Munich Cancer Registry, Germany

NCI National Cancer Institute, USA

SEER Surveillance, Epidemiology, and End Results, USA

UICC Union for International Cancer Control, Geneva

DCO Death certificate only Death certificate provides the only notification to the registry.

NA Not available

NOS Not otherwise specified

OS Overall/Observed survival Overall/Observed survival (Kaplan-Meier estimate)
Date of entry: diagnosis
Event: death from any cause

RS Relative survival Survival compared to “general population”,
ratio of observed to expected survival (Ederer II method),
reflecting cancer specific survival

AS Assembled survival Assembled chart of
observed, expected, relative survival

CS Conditional survival Survival probability under the condition of surviving
a given period of time

TTP Time to progression Time to first progression / relapse
Date of entry: diagnosis
Event: (progression / relapse): first local-, lymph node recurrence,
distant metastasis or unspecified progression

1-KM 1 minus Kaplan-Meier estimator
 (“inverse” Kaplan-Meier estimator)

CI Cumulative incidence
Death as competing risk (according to Kalbfleisch und Prentice)

PPS Post-progression survival Survival since first progression / relapse (Kaplan-Meier estimate)
Date of entry (progression / relapse): first local-, lymph node
recurrence, distant metastasis or unspecified progression
Event: death from any cause

Recommended Citation

Munich Cancer Registry. Survival ICD-10 C62: Testicular cancer [Internet]. 2021 [updated 2021 Jan 27; cited 2021 Mar 1]. Available from: https://www.tumorregister-muenchen.de/en/facts/surv/sC62__E-ICD-10-C62-Testicular-cancer-survival.pdf

Copyright

The content of the public web site provided by the Munich Cancer Registry is available worldwide and free of charge. All documents are free to download, utilize, copy, print-out and distribute, providing that the MCR is referenced.

Disclaimer

The Munich Cancer Registry reserves the right to not be responsible for the topicality, correctness, completeness or quality of the information provided. Liability claims regarding damage caused by the use of any information provided, including any kind of information which is incomplete or incorrect, will therefore be rejected.