

Munich Cancer Registry



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

ICD-10 C60: Penile cancer

Survival

Year of diagnosis	1988-1997	1998-2016
Patients	77	457
Diseases	77	457
Cases evaluated	72	356
Creation date	08/22/2018	
Export date	08/09/2018	
Population (males)	2.38 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/sC60__E-ICD-10-C60-Penile-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
4a	Relative survival by TNM staging (chart)	6
4b	Survival by TNM staging (table)	6
5a	Time to first progression (chart)	7
5b	Time to first progression (table)	7
5c	Observed post-progression survival (chart)	9
5d	Observed post-progression survival (table)	9

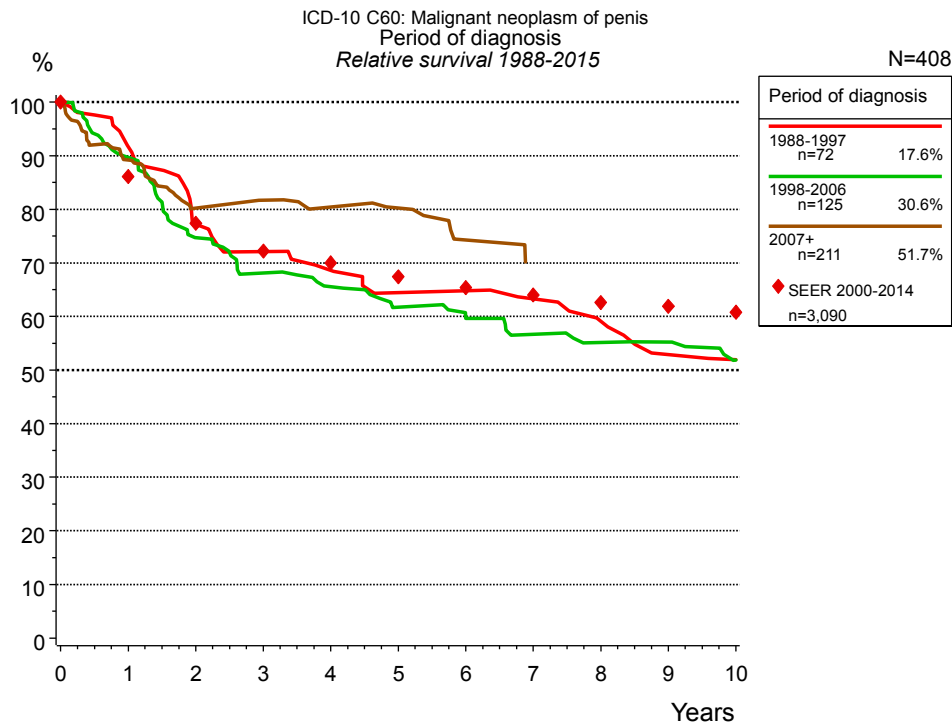


Figure 1a. Relative survival of patients with penile cancer by period of diagnosis. Included in the evaluation are 408 cases diagnosed between 1988 and 2015.

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 2014, 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=72		1998-2006 n=125		2007+ n=211	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	88.5	91.7	86.6	89.7	86.6	89.2
2	72.5	77.2	68.9	74.7	75.4	80.2
3	66.7	72.1	61.2	68.1	74.7	81.7
4	62.4	68.6	56.9	65.6	71.6	80.4
5	56.4	64.4	51.7	61.8	69.6	80.3
6	56.4	64.8	48.2	59.7	62.6	74.3
7	53.4	63.3	44.7	56.7		
8	48.8	59.1	42.0	55.2		
9	42.7	52.9	41.1	55.2		
10	41.1	52.0	36.6	51.9		

Table 1b. Observed (obs.) and relative (rel.) survival of patients with penile cancer by period of diagnosis for period 1988-2015 (N=408).

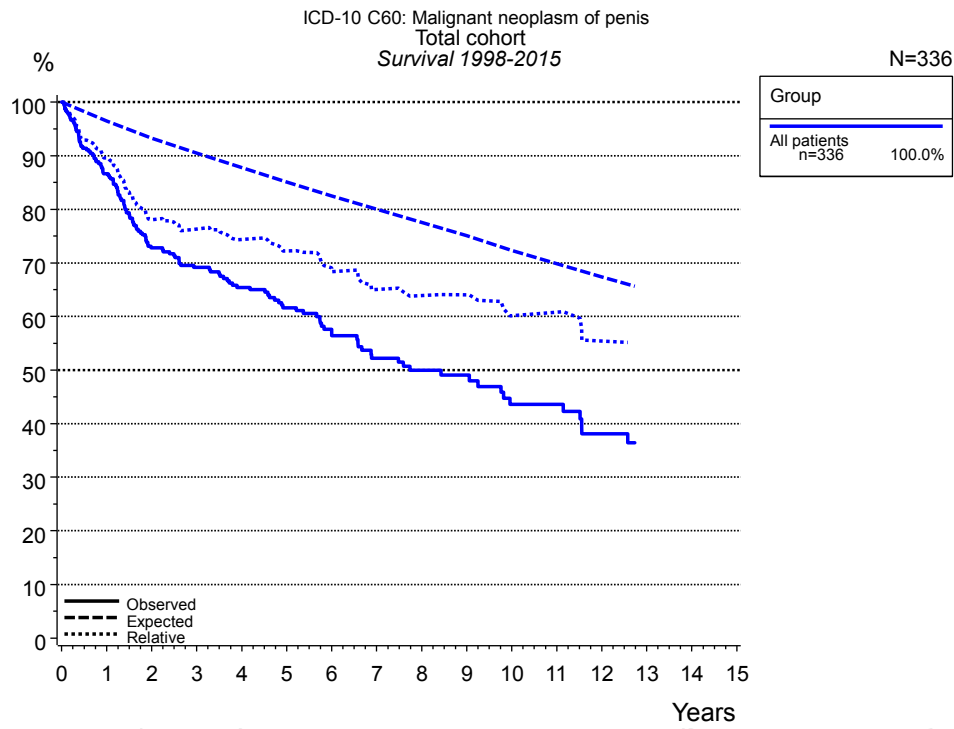


Figure 2a. Observed, expected and relative survival of the total cohort with penile cancer. Included in the evaluation are 336 cases diagnosed between 1998 and 2015.

Years	Group	
	obs. %	rel. %
0	100.0	100.0
1	86.6	89.6
2	72.8	78.0
3	69.1	76.3
4	65.4	74.4
5	61.6	72.2
6	56.4	68.3
7	52.2	65.1
8	49.9	63.9
9	49.0	64.0
10	43.6	60.2
11	43.6	60.8
12	38.1	55.4

Table 2b. Observed (obs.) and relative (rel.) survival of the total cohort with penile cancer for period 1998-2015 (N=336).

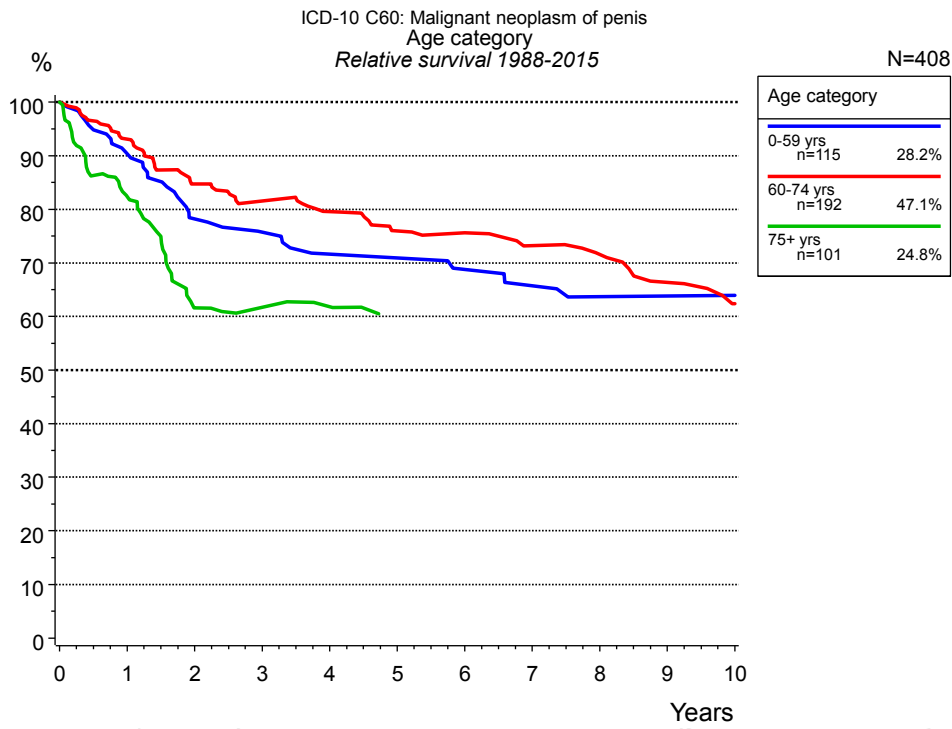


Figure 3a. Relative survival of patients with penile cancer by age category. Included in the evaluation are 408 cases diagnosed between 1988 and 2015.

Years	Age category					
	0-59 yrs n=115		60-74 yrs n=192		75+ yrs n=101	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	90.0	90.3	91.4	93.1	74.8	82.4
2	77.5	78.2	81.0	84.7	50.6	61.6
3	74.5	75.7	76.1	81.6	47.0	61.7
4	70.1	71.6	72.2	79.6	43.6	61.8
5	68.9	70.9	66.9	75.9		
6	66.2	68.8	64.4	75.6		
7	63.2	65.7	60.6	73.2		
8	60.0	63.7	57.4	71.6		
9	60.0	63.8	51.5	66.4		
10	60.0	64.0	46.0	62.4		

Table 3b. Observed (obs.) and relative (rel.) survival of patients with penile cancer by age category for period 1988-2015 (N=408).

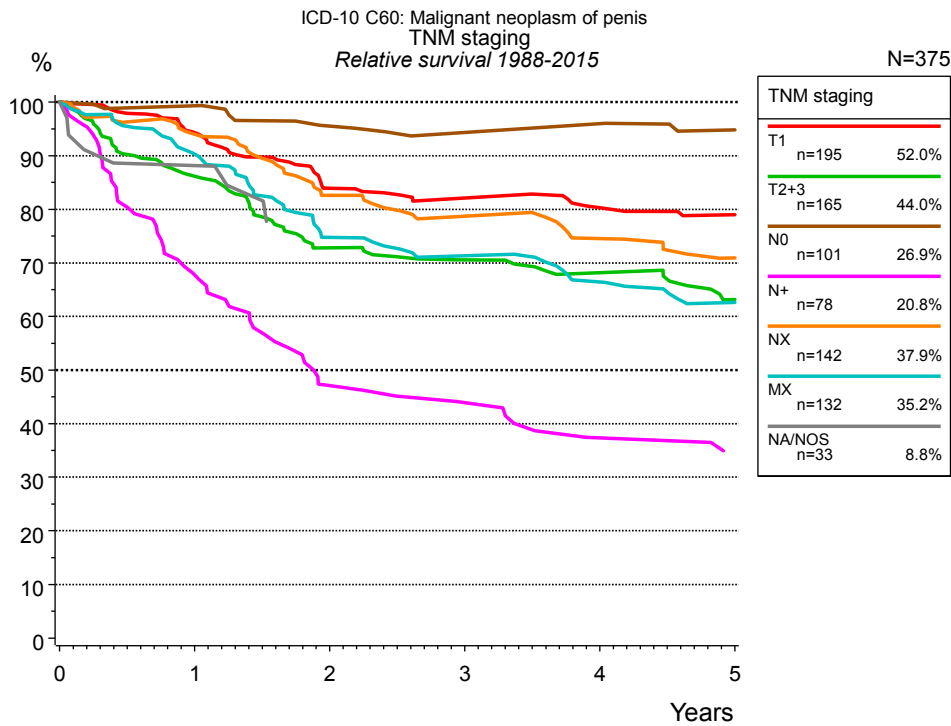


Figure 4a. Relative survival of patients with penile cancer by TNM staging. For 378 of 408 cases diagnosed between 1988 and 2015 valid data could be obtained for this item. For a total of 375 cases an evaluable classification was established. The accumulated percentage exceeds the 100 % value because patients are potentially considered in more than one subgroup. The grey line represents the subgroup of 33 patients with missing values regarding TNM staging (8.1 % of 408 patients, the percent values of all other categories are related to n=375).

Years	TNM staging													
	T1 n=195		T2+3 n=165		N0 n=101		N+ n=78		NX n=142		MX n=132		NA/NOS n=33	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	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	100.0	100.0	100.0	100.0	100.0	100.0
1	91.4	94.3	83.0	86.1	98.0	99.3	66.7	67.8	89.6	94.0	86.5	90.3	87.0	88.2
2	78.9	83.9	67.9	72.8	91.5	95.5	45.4	47.1	75.5	82.6	69.1	74.7		
3	75.2	82.1	63.6	70.6	88.1	94.3	41.4	43.9	69.8	78.7	64.2	71.3		
4	71.8	80.3	59.7	68.1	88.1	96.0	34.5	37.3	64.0	74.5	58.4	66.4		
5	68.8	79.0	53.2	63.1	84.2	94.8	31.5	34.5	58.6	70.9	53.1	62.7		

Table 4b. Observed (obs.) and relative (rel.) survival of patients with penile cancer by TNM staging for period 1988-2015 (N=375).

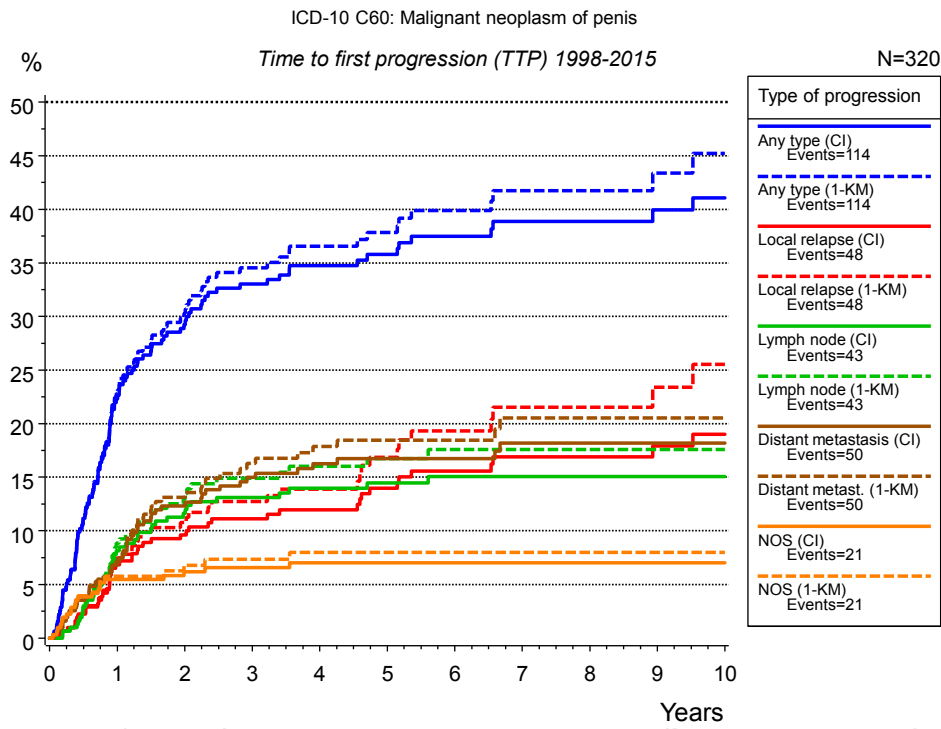


Figure 5a. Time to first progression of 320 patients with penile cancer diagnosed between 1998 and 2015 (in solid cancers M0 only) estimated by cumulative incidence function (CI, solid line) accounting for death as competing risk and by inverse Kaplan-Meier estimate (1-KM, dashed line). The frequency of events may be underestimated due to underreporting.

Years	Type of progression						
	Any type (CI)	Any type (1-KM)	Local relapse (CI)	Local relapse (1-KM)	Lymph node (CI)	Lymph node (1-KM)	Distant metastasis (CI)
	n=320 %	n=320 %	n=320 %	n=320 %	n=320 %	n=320 %	n=320 %
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	22.3	22.8	6.8	7.4	8.1	8.8	6.8
2	29.2	30.3	9.6	10.8	11.6	13.0	12.3
3	33.0	34.5	11.1	12.7	13.1	14.9	15.0
4	34.7	36.6	12.0	13.9	14.0	16.0	16.3
5	35.8	37.8	14.0	16.9	14.5	16.7	16.7
6	37.5	39.9	15.6	19.3	15.1	17.6	16.7
7	38.9	41.8	16.9	21.5	15.1	17.6	18.2
8	38.9	41.8	16.9	21.5	15.1	17.6	18.2
9	39.9	43.4	17.9	23.4	15.1	17.6	18.2
10	41.1	45.2	19.0	25.5	15.1	17.6	18.2

<i>cont'd</i>	Type of progression		
	Distant metast. (1-KM)	NOS (CI)	NOS (1-KM)
	n=320 %	n=320 %	n=320 %
Years			
0	0.0	0.0	0.0
1	7.1	5.5	5.8
2	13.1	6.2	6.8
3	16.3	6.6	7.3
4	17.9	7.0	8.0
5	18.4	7.0	8.0
6	18.4	7.0	8.0
7	20.5	7.0	8.0
8	20.5	7.0	8.0
9	20.5	7.0	8.0
10	20.5	7.0	8.0

Table 5b. Time to first progression of patients with penile cancer for period 1998-2015 (N=320).

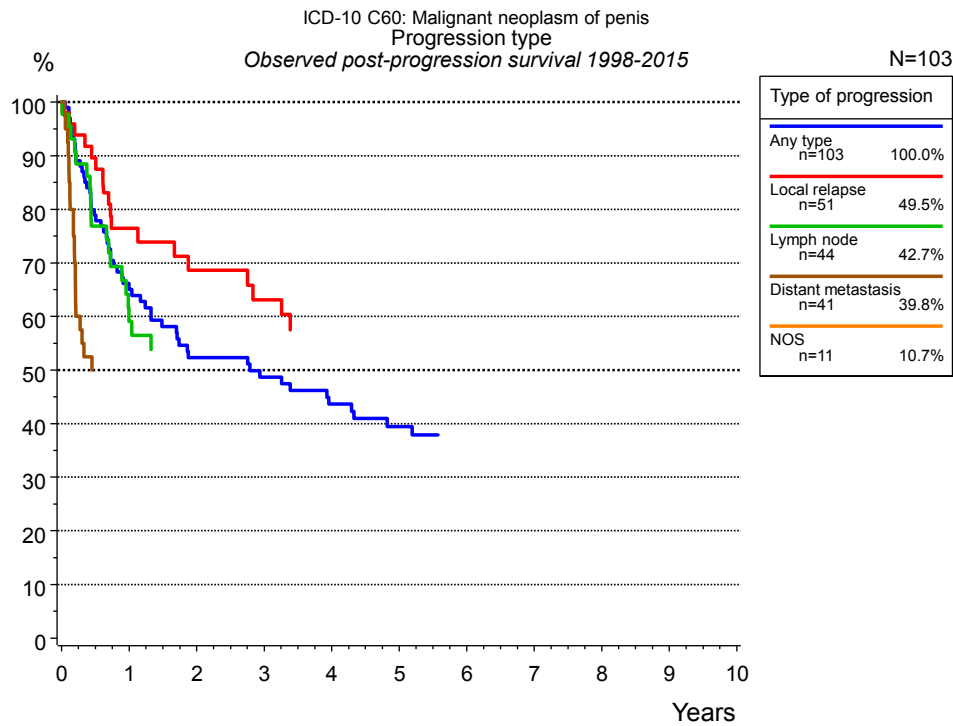


Figure 5c. Observed post-progression survival of 103 patients with penile cancer diagnosed between 1998 and 2015. These 103 patients with documented progression events during their course of disease represent 31.0 % of the totally 332 evaluated cases (incl. M1, n=12, 3.6 %). Patients with cancer relapse documented via death certificates only were excluded (n=23, 6.9 %). Multiple progression types on different sites are included in the evaluation even when not occurring synchronously. The NOS (not otherwise specified) class is included under the condition, that it is the one and only progression type during the course of disease. Subgroups with sample size <20 are omitted from the chart.

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=103 %	Local relapse n=51 %	Lymph node n=44 %	Distant metastasis n=41 %
0	100.0	100.0	100.0	100.0
1	65.0	76.4	59.0	
2	52.3	68.6		
3	48.7	63.1		
4	43.6			
5	39.5			

Table 5d. Observed post-progression survival of patients with penile cancer for period 1998-2015 (N=103).

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 C60: Penile cancer [Internet]. 2018 [updated 2018 Aug 22; cited 2018 Oct 1]. Available from: https://www.tumorregister-muenchen.de/en/facts/surv/sC60__E-ICD-10-C60-Penile-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.