

Munich Cancer Registry



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

Cancer statistics: Survival

C60: Penile cancer

Year of diagnosis	1988-2013
Patients	443
Diseases	443
Cases evaluated	236
Creation date	05/13/2015
Export date	12/30/2014
Population (males)	2.28 m



http://www.tumorregister-muenchen.de/en/facts/surv/surv_C60__E.pdf

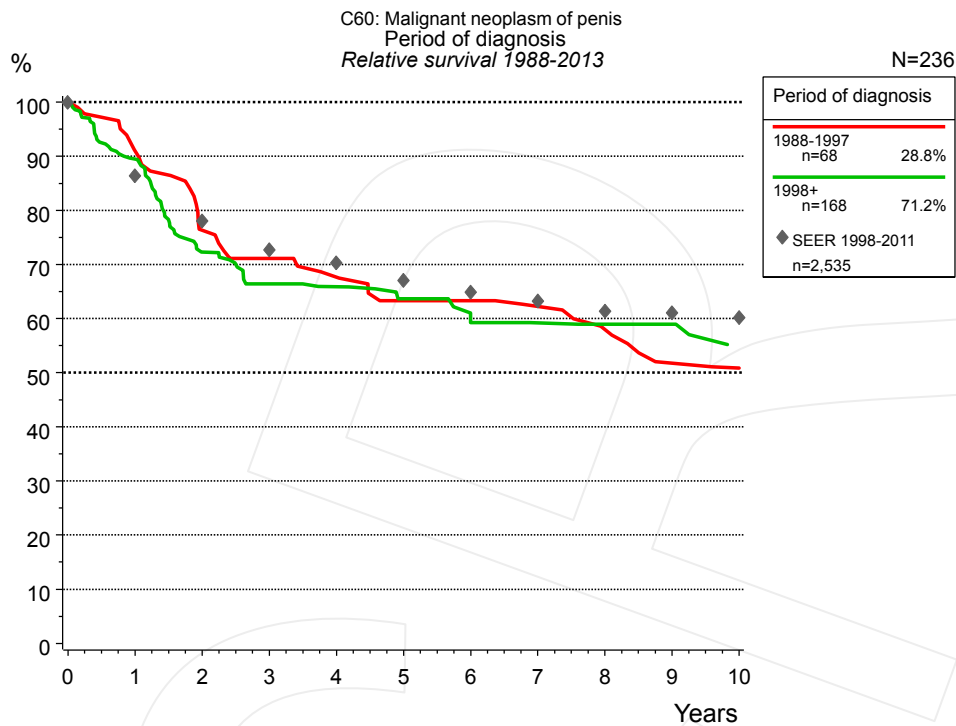


Figure 1a. Relative survival of patients with penile cancer by period of diagnosis. Included in the evaluation are 236 cases diagnosed between 1988 and 2013.

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 2011, and are represented by gray 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 n=68		1998+ n=168	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	88.2	90.9	86.5	89.5
2	72.1	76.3	67.0	72.3
3	66.2	71.1	60.2	66.4
4	61.7	67.6	57.6	65.9
5	55.7	63.3	53.4	63.6
6	55.7	63.3	47.7	59.2
7	52.7	62.2	46.2	59.2
8	48.0	58.0	44.5	59.0
9	41.8	51.8	44.5	59.0
10	40.3	50.8	38.3	55.1

Table 1b. Observed (obs.) and relative (rel.) survival of patients with penile cancer by period of diagnosis for period 1988-2013 (N=236).

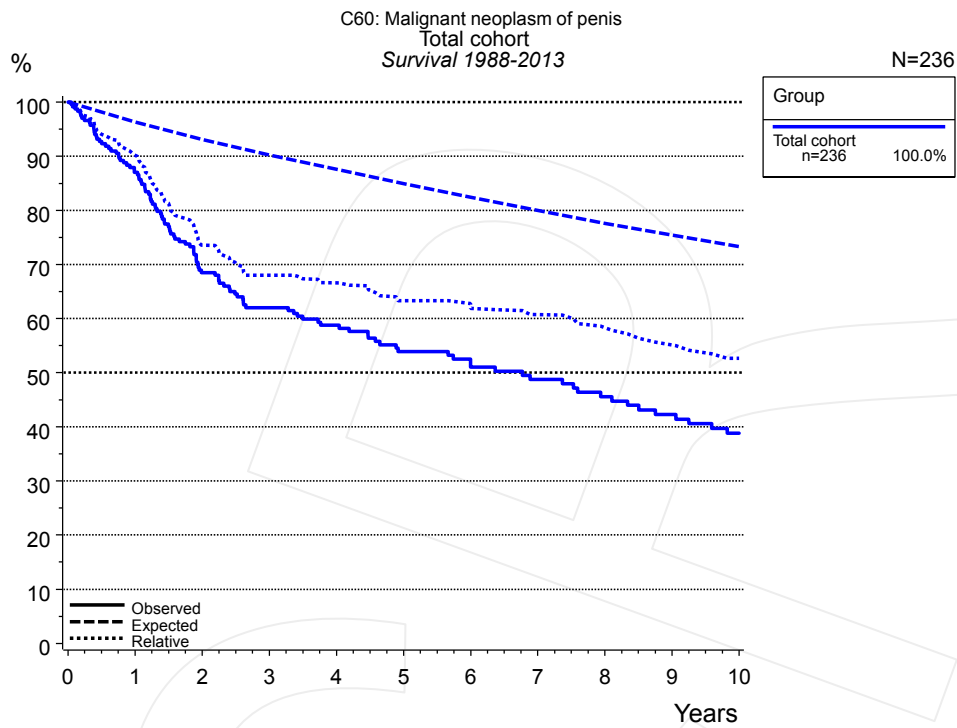


Figure 2a. Observed, expected and relative survival of the total cohort with penile cancer. Included in the evaluation are 236 cases diagnosed between 1988 and 2013.

Years	Group	
	Total cohort n=236	
	obs. %	rel. %
0	100.0	100.0
1	87.0	90.2
2	68.5	73.6
3	62.0	68.0
4	58.8	66.6
5	53.9	63.3
6	51.0	61.9
7	48.8	60.7
8	45.6	58.3
9	42.3	55.1
10	38.8	52.7

Table 2b. Observed (obs.) and relative (rel.) survival of the total cohort with penile cancer for period 1988-2013 (N=236).

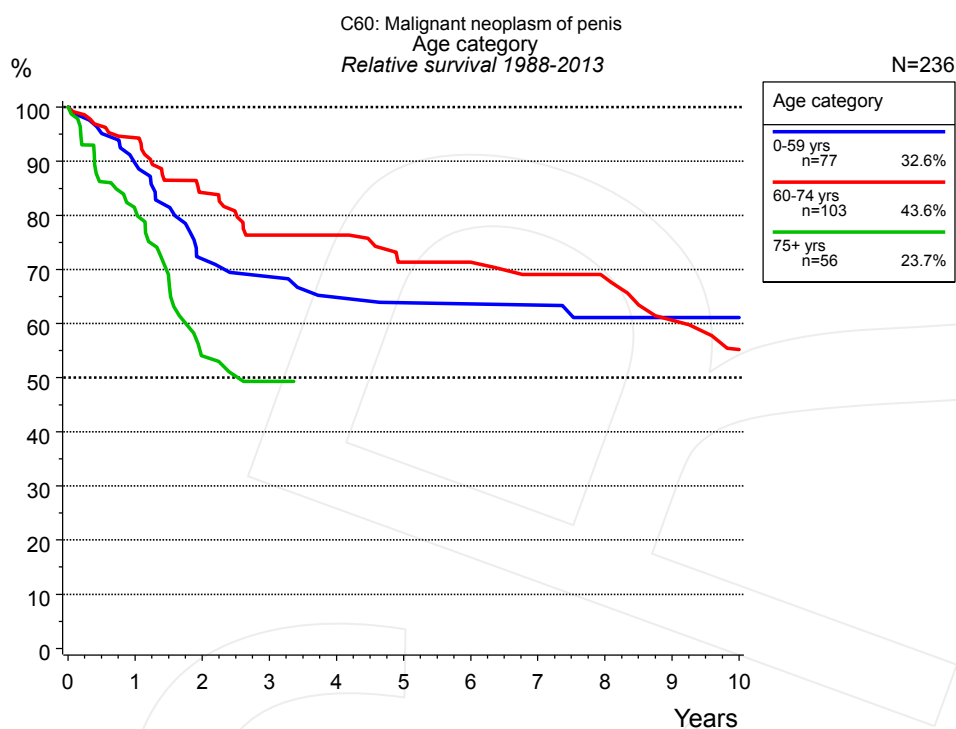


Figure 3a. Relative survival of patients with penile cancer by age category. Included in the evaluation are 236 cases diagnosed between 1988 and 2013.

Years	Age category					
	0-59 yrs n=77		60-74 yrs n=103		75+ yrs n=56	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	89.3	89.6	93.0	94.3	73.2	81.0
2	71.5	72.0	80.3	84.2	43.7	54.1
3	68.3	68.7	71.4	76.4	37.3	49.3
4	63.5	64.8	70.1	76.4		
5	61.7	63.9	62.4	71.3		
6	61.7	63.7	60.5	71.3		
7	61.7	63.4	56.7	69.1		
8	57.3	61.1	54.8	68.5		
9	57.3	61.1	46.8	60.6		
10	57.3	61.1	40.4	55.2		

Table 3b. Observed (obs.) and relative (rel.) survival of patients with penile cancer by age category for period 1988-2013 (N=236).

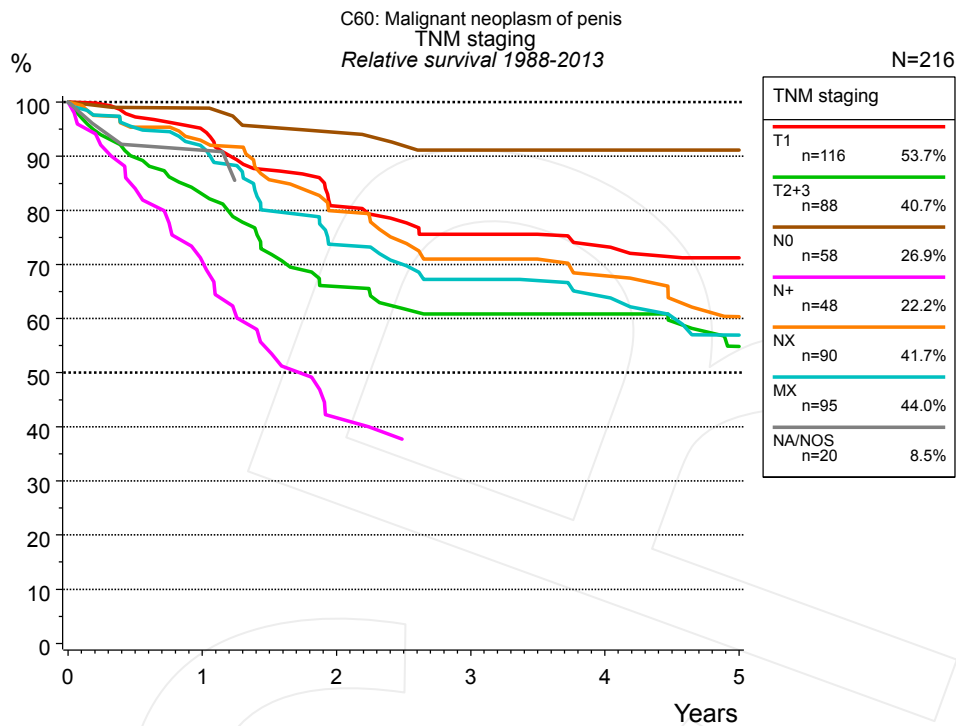


Figure 4a. Relative survival of patients with penile cancer by TNM staging. For 217 of 236 cases diagnosed between 1988 and 2013 valid data could be obtained for this item. For a total of 216 cases an evaluable classification was established. The accumulated percentage exceeds the 100% value because patients are potentially considered in more than one subgroup. The grey line represents the subgroup of 20 patients with missing values regarding TNM staging (8.5% of 236 patients, the percent values of all other categories are related to n=216).

		TNM staging													
		T1 n=116		T2+3 n=88		N0 n=58		N+ n=48		NX n=90		MX n=95		NA/NOS n=20	
Years		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		92.0	94.9	80.2	83.0	98.2	98.9	69.6	70.6	88.7	92.8	88.1	91.7	90.0	91.1
2		75.8	80.8	61.9	65.9	91.0	94.4	40.4	41.7	73.4	79.9	68.1	73.7		
3		69.5	75.6	55.4	60.8	85.4	91.1	35.7	36.4	63.4	71.0	60.5	67.2		
4		66.0	73.3	54.0	60.8	85.4	91.1			58.8	67.9	56.3	64.0		
5		62.2	71.2	45.9	54.8	81.1	91.1			49.8	60.4	47.8	57.0		

Table 4b. Observed (obs.) and relative (rel.) survival of patients with penile cancer by TNM staging for period 1988-2013 (N=495).

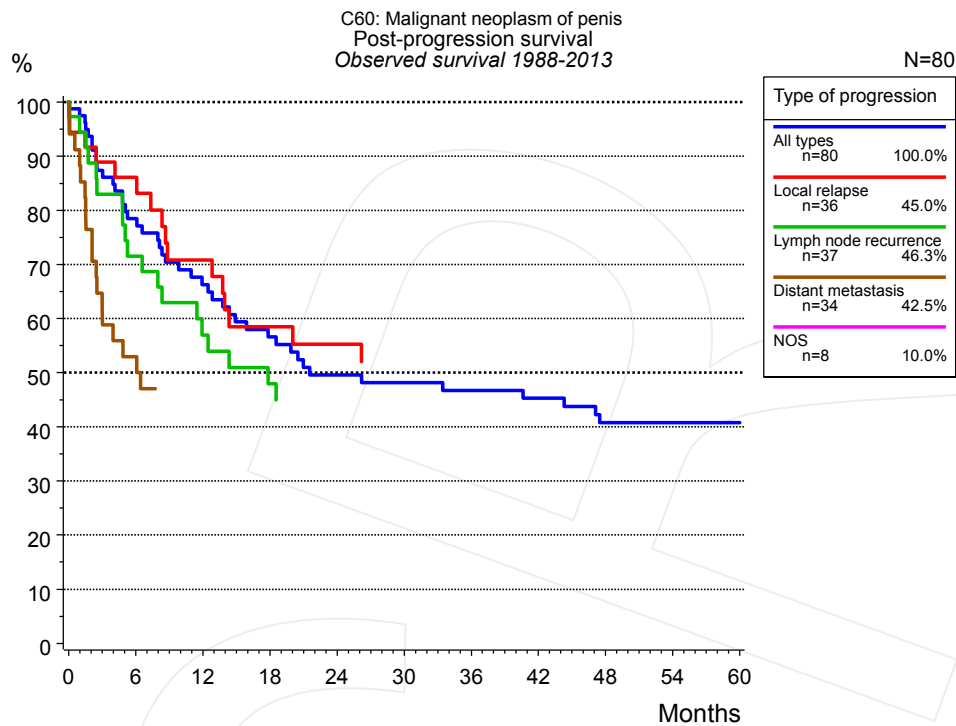


Figure 5a. Observed post-progression survival of 80 patients with penile cancer diagnosed between 1988 and 2013 (incl. M1). These 80 patients with documented progression events during their course of disease represent 33.9% of the totally 236 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=17, 7.2%). 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 <15 are dropped 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 “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 n=80 %	Local relapse n=36 %	Lymph node recurrence n=37 %	Distant metastasis n=34 %	NOS n=8 %
0	100.0	100.0	100.0	100.0	100.0
12	66.2	70.8	57.0		
24	49.5	55.3			
36	46.7	52.0			
48	40.7				
60	40.7				

Table 5b. Observed post-progression survival of patients with penile cancer for period 1988-2013 (N=80).

Shortcuts

MCR	Munich Cancer Registry, Germany (Tumorregister München)
NCI	National Cancer Institute, USA
SEER	Surveillance, Epidemiology, and End Results, USA
UICC	Union for International Cancer Control, Geneva
DCO	Death certificate only. The death certificate provides the only notification to the registry.
NA	Not available
NOS	Not otherwise specified
OS	Observed/overall survival (Kaplan-Meier estimate)
RS	Relative survival, compared to the general population, ratio of observed to expected survival (Ederer II method), reflecting excess mortality among cancer patients
AS	Assembled survival chart (observed, expected, relative)
PPS	Post-progression survival, survival since first relapse (Kaplan-Meier estimate)
progression	Date of entry: Date of first locoregional recurrence, distant metastasis, unspecified
	Event: Death of all causes
CS	Conditional survival, survival probability under the condition of surviving a given period of time

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