# **Munich Cancer Registry**



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Munich Cancer Registry at Munich Cancer Center Marchioninistr. 15 Munich, 81377 Germany

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

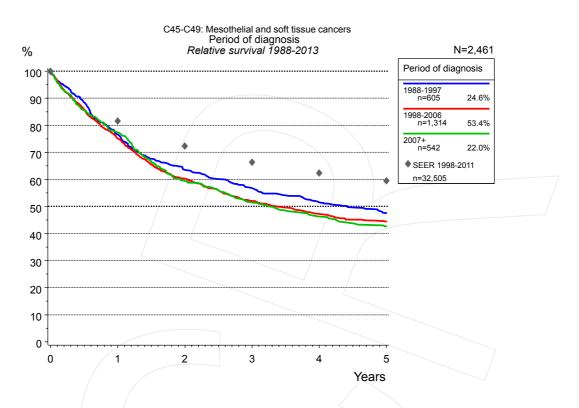
# **Cancer statistics: Survival**

## C45-C49: Mesoth. and soft tissue ca.

Year of diagnosis	1988-2013
Patients	4,746
Diseases	4,762
Cases evaluated	2,461
Creation date	05/13/2015
Export date	12/30/2014
Population	4.64 m



http://www.tumorregister-muenchen.de/en/facts/surv/surv\_C4549E.pdf



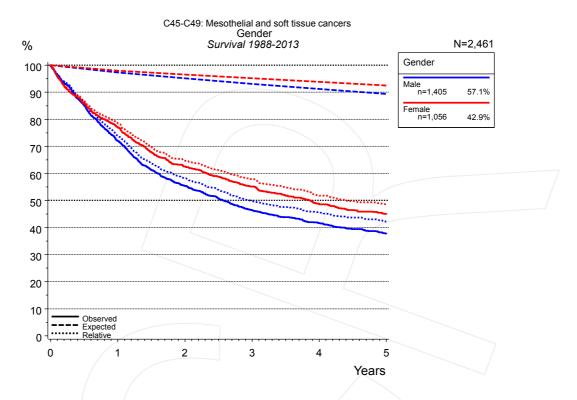
**Figure 1a.** Relative survival of patients with mesoth. and soft tissue ca. by period of diagnosis. Included in the evaluation are 2,461 cases diagnosed between 1988 and 2013.

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 populationbased 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.

Period of diagnosis							
	1988-	1997	1998-2006		2007+		
	n=605		n=1,314		n=5	642	
Years	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %	
0	100.0	100.0	100.0	100.0	100.0	100.0	
1	74.9	76.5	73.3	75.1	75.5	77.3	
2	61.1	63.5	57.8	60.3	56.7	59.4	
3	53.8	56.8	49.0	52.0	48.2	51.5	
4	47.9	51.6	43.8	47.3	42.5	46.3	
5	43.5	47.6	40.4	44.5	38.8	42.6	

**Table 1b.** Observed (obs.) and relative (rel.) survival of patients with mesoth. and soft tissue ca. by period of diagnosis for period 1988-2013 (N=2,461).

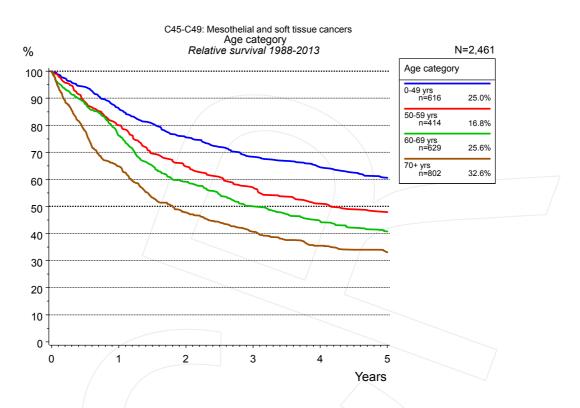


**Figure 2a.** Survival of patients with mesoth. and soft tissue ca. by gender. Included in the evaluation are 2,461 cases diagnosed between 1988 and 2013.

	C	Gender	r		
	Male				
	n=1,	405	n=1,	056	
Years	obs. %	rel. %	obs. %	rel. %	
0	100.0	100.0	100.0	100.0	
1	72.0	74.0	77.0	78.5	
2	55.4	58.2	62.5	64.7	
3	46.4	49.8	55.1	57.9	
4	41.7	45.6	48.7	51.8	
5	37.8	42.2	45.0	48.6	

**Table 2b.** Observed (obs.) and relative (rel.) survival of patients with mesoth. and soft tissue ca. by gender for period 1988-2013 (N=2,461).

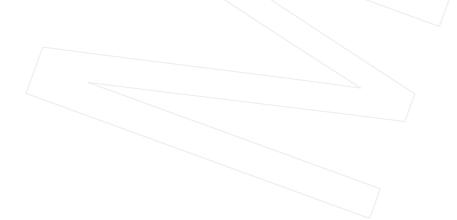


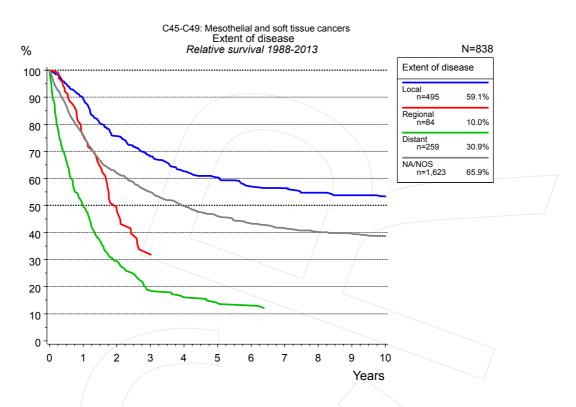


**Figure 3a.** Relative survival of patients with mesoth. and soft tissue ca. by age category. Included in the evaluation are 2,461 cases diagnosed between 1988 and 2013.

			Age	categ	ory			
	0-49	) yrs	50-59 yrs		60-69 yrs		70+ yrs	
	n=616		n=414		n=6	629	n=8	302
Years	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	86.0	86.1	79.6	80.0	75.0	76.1	61.2	64.8
2	75.4	75.6	64.1	64.8	57.5	59.1	42.7	47.8
3	68.2	68.4	56.1	57.0	47.9	50.0	34.2	40.6
4	64.3	64.5	49.8	51.0	41.9	44.5	28.2	35.5
5	60.3	60.6	46.5	47.9	37.8	40.8	24.6	33.1

**Table 3b.** Observed (obs.) and relative (rel.) survival of patients with mesoth. and soft tissue ca. by age category for period 1988-2013 (N=2,461).

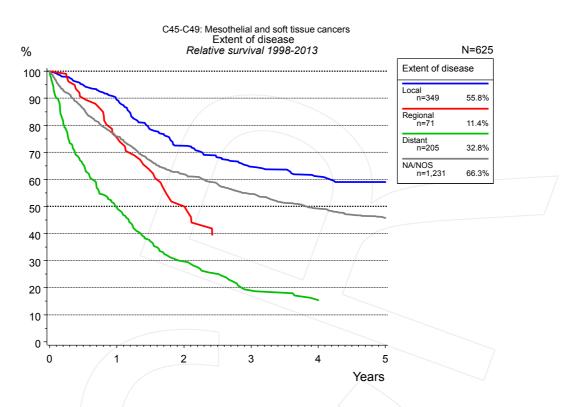




**Figure 4a.** Relative survival of patients with mesoth. and soft tissue ca. by extent of disease. For 1,249 of 2,461 cases diagnosed between 1988 and 2013 valid data could be obtained for this item. For a total of 838 cases an evaluable classification was established. The grey line represents the subgroup of 1,623 patients with missing values regarding extent of disease (65.9% of 2,461 patients, the percent values of all other categories are related to n=838).

Extent of disease									
	Loc	cal	Regi	onal	Dist	ant	NA/N	NOS	
	n=495		n=	84	n=2	259	n=1,	623	
Years	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	87.7	89.4	74.6	75.8	49.2	49.9	73.8	75.8	
2	73.1	75.7	48.1	48.4	28.7	29.3	59.1	62.0	
3	64.9	68.2	32.6	31.9	18.1	18.5	51.4	55.0	
4	58.8	62.7			15.9	16.1	45.7	49.7	
5	55.9	60.3			13.4	13.9	41.5	46.1	
6	52.1	57.0			12.8	13.0	38.3	43.3	
7	50.8	56.4					36.3	41.7	
8	48.6	54.7					34.2	40.2	
9	47.0	53.8					33.3	39.6	
10	45.7	53.4					31.9	38.7	
	0 1 2 3 4 5 6 7 8 9	n=4   Years obs. %   0 100.0   1 87.7   2 73.1   3 64.9   4 58.8   5 55.9   6 52.1   7 50.8   8 48.6   9 47.0	Years obs. % rel. %   0 100.0 100.0   1 87.7 89.4   2 73.1 75.7   3 64.9 68.2   4 58.8 62.7   5 55.9 60.3   6 52.1 57.0   7 50.8 56.4   8 48.6 54.7   9 47.0 53.8	$ \begin{array}{c c c c c c c } & & & & & & & & & & & & & & & & & & &$	Local n=495 Regional n=84   Years obs.% rel.% obs.% rel.%   0 100.0 100.0 100.0 100.0   1 87.7 89.4 74.6 75.8   2 73.1 75.7 48.1 48.4   3 64.9 68.2 32.6 31.9   4 58.8 62.7 55.9 60.3 54.4   6 52.1 57.0 55.4 55.4 55.4   7 50.8 56.4 56.4 56.4 56.4 56.4   8 48.6 54.7 56.8 56.7 56.8 56.7 56.8 56.7 56.7 56.8 56.7 56.8 56.7 56.8 56.4 56.8 56.7 56.8 56.7 56.8 56.7 56.8 56.7 56.8 56.7 56.8 56.7 56.8 56.7 56.8 56.8 56.7 56.8 56.8 56.8 56.8 56.8 56	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{ c c c c } & Reginal & District \\ n=495 & n=84 & n=259 \\ \hline n=1000 & 1000 & 1000 & 1000 & 1000 \\ \hline n=1000 & 1000 & 1000 & 1000 & 1000 \\ \hline n=1000 & 1000 & 1000 & 1000 & 1000 \\ \hline n=1000 & 1000 & 1000 & 1000 & 1000 \\ \hline n=1000 & 1000 & 1000 & 1000 & 1000 \\ \hline n=1000 & 1000 & 1000 & 1000 & 1000 \\ \hline n=1000 & 1000 & 1000 & 1000 & 1000 \\ \hline n=1000 & 1000 & 1000 & 1000 & 1000 \\ \hline n=1000 & 1000 & 1000 & 1000 & 1000 \\ \hline n=1000 & 1000 & 1000 & 1000 & 1000 & 1000 \\ \hline n=1000 & 1000 & 1000 & 1000 & 1000 & 1000 \\ \hline n=1000 & 1000 & 1000 & 1000 & 1000 & 1000 \\ \hline n=1000 & 1000 & 1000 & 1000 & 1000 & 1000 \\ \hline n=1000 & 1000 & 1000 & 1000 & 1000 & 1000 \\ \hline n=1000 & 1000 & 1000 & 1000 & 1000 & 1000 \\ \hline n=1000 & 1000 & 1000 & 1000 & 1000 & 1000 \\ \hline n=1000 & 1000 & 1000 & 1000 & 1000 & 1000 \\ \hline n=1000 & 1000 & 1000 & 1000 & 1000 & 1000 \\ \hline n=1000 & 1000 & 1000 & 1000 & 1000 & 1000 \\ \hline n=1000 & 1000 & 1000 & 1000 & 1000 & 1000 \\ \hline n=1000 & 1000 & 1000 & 1000 & 1000 & 1000 \\ \hline n=1000 & 1000 & 1000 & 1000 & 1000 & 1000 & 1000 \\ \hline n=1000 & 1000 & 1000 & 1000 & 1000 & 1000 & 1000 \\ \hline n=1000 & 1000 & 1000 & 1000 & 1000 & 1000 & 1000 \\ \hline n=1000 & 1000 & 1000 & 1000 & 1000 & 1000 & 1000 & 1000 & 1000 \\ \hline n=1000 & 1000 &$	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	

**Table 4b.** Observed (obs.) and relative (rel.) survival of patients with mesoth. and soft tissue ca. by extent of disease for period 1988-2013 (N=838).

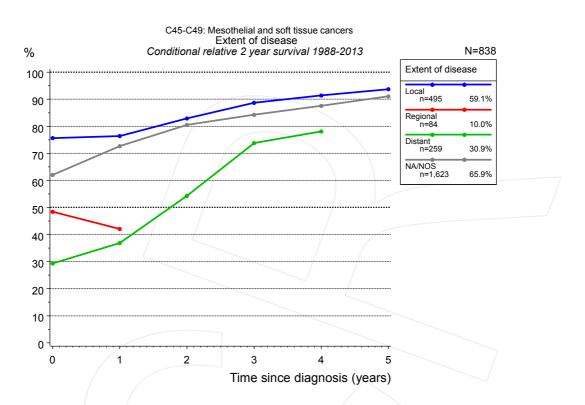


**Figure 4c.** Relative survival of patients with mesoth. and soft tissue ca. by extent of disease. For 969 of 1,856 cases diagnosed between 1998 and 2013 valid data could be obtained for this item. For a total of 625 cases an evaluable classification was established. The grey line represents the subgroup of 1,231 patients with missing values regarding extent of disease (66.3% of 1,856 patients, the percent values of all other categories are related to n=625).

Extent of disease										
	Lo	cal	Regional n=71		Distant n=205		NA/NOS			
	n=3	349					n=1,231			
Years	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	87.7	89.4	74.2	75.5	49.1	49.7	73.9	75.9		
2	70.2	72.5	50.4	50.1	29.1	29.7	58.9	61.9		
3	61.6	64.7			18.6	18.9	50.9	54.6		
4	57.5	61.1			15.5	15.4	45.0	49.2		
5	55.2	59.0					41.1	45.8		

**Table 4d.** Observed (obs.) and relative (rel.) survival of patients with mesoth. and soft tissue ca. by extent of disease for period 1998-2013 (N=625).



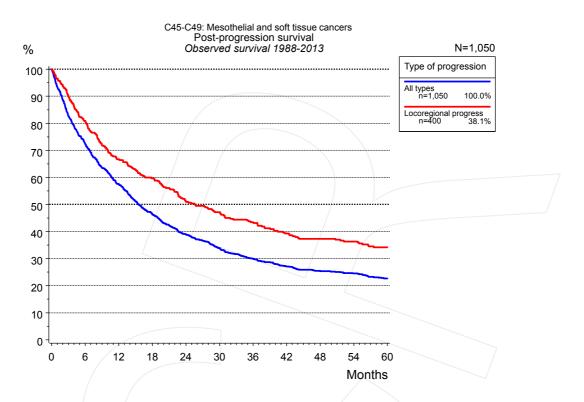


**Figure 4e.** Conditional relative 2-year survival of patients with mesoth. and soft tissue ca. by extent of disease. For 1,249 of 2,461 cases diagnosed between 1988 and 2013 valid data could be obtained for this item. For a total of 838 cases an evaluable classification was established. The grey line represents the subgroup of 1,623 patients with missing values regarding extent of disease (65.9% of 2,461 patients, the percent values of all other categories are related to n=838).

Extent of disease									
	Loc	al	Regional		Distant		NA/NOS		
		Cond.		Cond.		Cond.		Cond.	
		surv. %		surv. %		surv. %		surv. %	
Years	n	2 yrs	n	2 yrs	n	2 yrs	n	2 yrs	
0	495	75.7	84	48.4	259	29.3	1,623	62.0	
1	418	76.4	56	42.0	119	36.9	1,133	72.7	
2	325	82.9			63	54.3	846	80.5	
3	265	88.7			35	73.8	669	84.2	
4	216	91.4			27	78.1	537	87.6	
5	183	93.7					439	91.1	

**Table 4f.** Conditional relative 2-year survival of patients with mesoth. and soft tissue ca. by extent of disease for period 1988-2013 (N=838).

Conditional relative survival rates refer to the relative survival probability, in this case for 2 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 2-year survival rate is 88.7% (n=265).



**Figure 5a.** Observed post-progression survival of 1,050 patients with mesoth. and soft tissue ca. diagnosed between 1988 and 2013 (incl. M1). These 1,050 patients with documented progression events during their course of disease represent 42.7% of the totally 2,461 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=400, 16.3%). Multiple progression types on different sites are included in the evaluation even when not occuring 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 potientially considered in more than one subgroup.

Type of progression					
	All types	Locoregional progress			
	n=1,050	n=400			
Months	%	%			
0	100.0	100.0			
12	57.5	66.7			
24	39.0	51.3			
36	29.9	43.4			
48	25.5	37.3			
60	22.7	34.2			

**Table 5b.** Observed post-progression survival of patients with mesoth. and soft tissue ca. for period 1988-2013 (N=1,050).

#### 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)
- Date of entry: Date of first locoregional recurrence, distant metastasis, unspecified progression

Event:

- Death of all causes
- CS Conditional survival, survival probability under the condition of surviving a given period of time

#### **Recommended Citation**

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