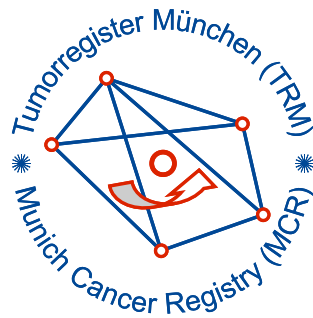


Munich Cancer Registry



- ▶ Baseline statistics
- ▶ Selection Matrix
- ▶ Homepage

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

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

Cancer statistics: Survival

Sarcoma morph.: Sarcoma (morph.)

Year of diagnosis	1978-1987	1988-1997	1998-2011
Patients	507	1,145	5,418
Diseases	508	1,147	5,439
Creation date	04/01/2013		
Export date	01/03/2013		
Population	4.5 m		



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

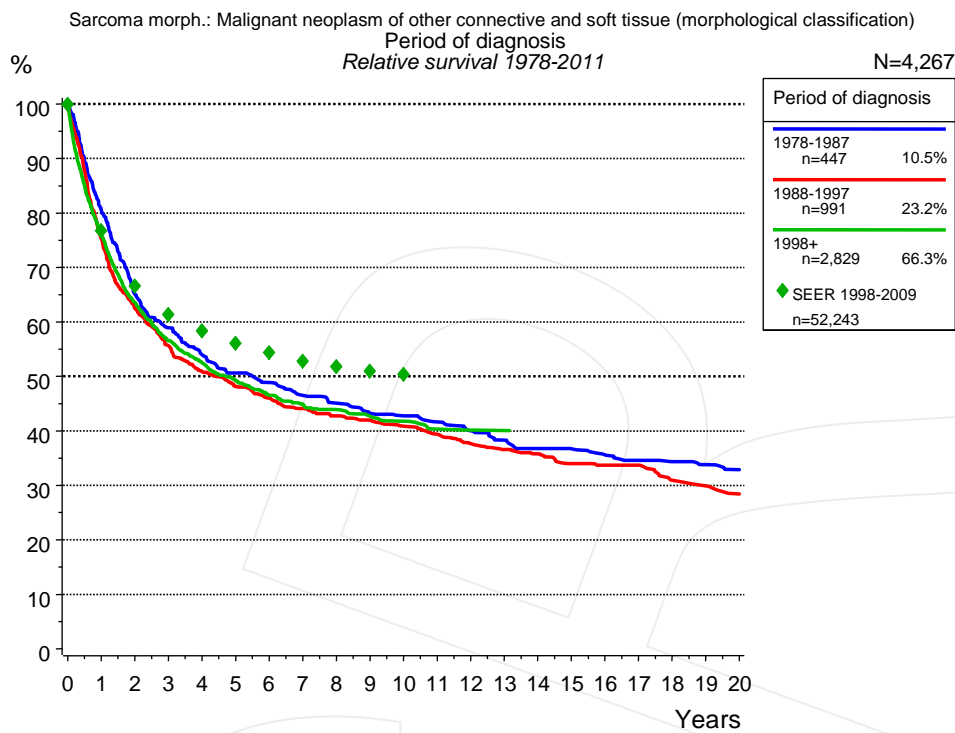


Figure 1a. Relative survival of patients with sarcoma (morph.) by period of diagnosis. Included in the evaluation are 4,267 cases diagnosed between 1978 and 2011.

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 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					
	1978-1987 n=447		1988-1997 n=991		1998+ n=2,829	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	79.2	80.5	73.5	75.2	73.9	75.7
2	63.0	65.1	60.0	62.4	60.8	63.5
3	56.3	58.9	52.6	55.6	53.1	56.6
4	50.9	53.9	47.2	50.9	48.4	52.5
5	47.0	50.6	43.9	48.2	44.6	49.2
6	44.8	48.9	41.2	46.0	41.5	46.5
7	42.1	46.5	38.8	44.1	39.5	44.9
8	40.0	45.1	37.0	42.7	38.0	43.9
9	37.8	43.2	35.8	42.0	36.4	42.7
10	37.1	42.8	34.2	40.8	35.2	41.8
11	35.5	41.6	32.4	39.4	33.4	40.3
12	33.6	40.0	30.5	37.6	32.6	40.2
13	31.8	38.3	29.2	36.6	32.6	40.1
14	30.0	36.8	28.2	35.8		
15	29.5	36.7	26.3	34.0		
16	28.3	35.6	25.7	33.7		
17	27.2	34.6	25.4	33.7		
18	26.5	34.3	22.8	30.9		
19	25.8	33.8	22.0	29.9		
20	24.8	32.9	20.4	28.4		

Table 1b. Observed (obs.) and relative (rel.) survival of patients with sarcoma (morph.) by period of diagnosis for period 1978-2011 (N=4,267).

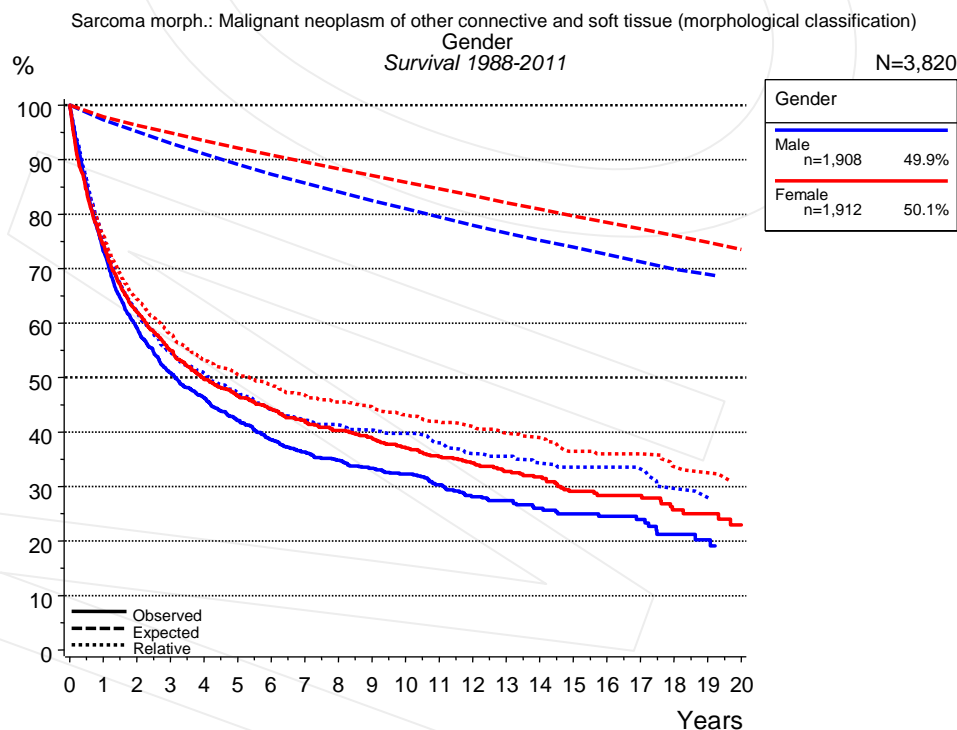


Figure 2a. Survival of patients with sarcoma (morph.) by gender. Included in the evaluation are 3,820 cases diagnosed between 1988 and 2011.

Years	Gender			
	Male n=1,908		Female n=1,912	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	73.2	75.2	74.3	76.0
2	59.1	62.1	62.0	64.3
3	50.9	54.7	55.0	57.9
4	46.3	50.8	49.7	53.1
5	42.1	47.2	46.6	50.6
6	38.6	44.1	44.3	48.6
7	36.3	42.3	42.1	46.8
8	34.8	41.3	40.3	45.5
9	33.4	40.3	38.9	44.6
10	32.3	39.7	37.1	43.1
11	30.3	38.0	35.5	41.9
12	28.1	36.1	34.3	41.0
13	27.4	35.5	32.8	39.8
14	26.0	34.3	31.7	39.0
15	25.0	33.5	29.1	36.5
16	24.5	33.5	28.4	36.0
17	23.9	33.2	28.4	36.0
18	21.2	29.6	25.7	33.6
19	20.2	27.9	25.0	32.5
20	19.1	26.6	22.9	30.8

Table 2b. Observed (obs.) and relative (rel.) survival of patients with sarcoma (morph.) by gender for period 1988-2011 (N=3,820).

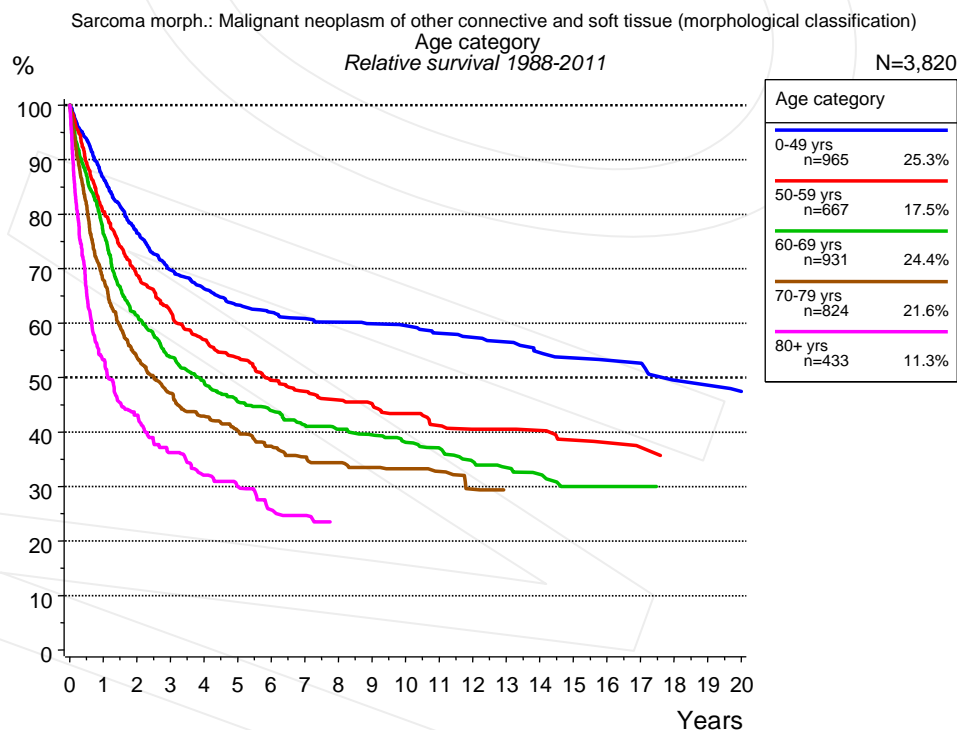


Figure 3a. Relative survival of patients with sarcoma (morph.) by age category. Included in the evaluation are 3,820 cases diagnosed between 1988 and 2011.

Years	Age category									
	0-49 yrs n=965		50-59 yrs n=667		60-69 yrs n=931		70-79 yrs n=824		80+ yrs n=433	
	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
1	86.5	86.6	80.0	80.4	75.2	76.3	65.6	67.8	47.8	53.3
2	76.3	76.5	68.0	68.8	59.7	61.3	50.1	53.7	34.9	43.1
3	69.5	69.7	61.1	62.1	51.4	53.7	42.1	47.1	26.0	36.2
4	66.0	66.3	55.5	57.0	46.3	49.2	36.5	42.9	20.0	32.1
5	62.9	63.3	51.9	53.6	42.0	45.6	32.6	40.2	16.2	30.0
6	61.5	62.0	47.5	49.5	39.8	43.9	28.9	37.4	12.1	25.7
7	60.3	60.8	45.2	47.5	36.8	41.3	25.7	35.4	10.6	24.7
8	59.5	60.2	43.3	45.9	35.1	40.5	23.8	34.4		
9	59.0	59.8	42.4	45.2	33.4	39.5	21.7	33.5		
10	58.7	59.5	40.1	43.4	31.2	38.1	19.8	33.3		
11	57.0	58.1	37.8	41.2	29.5	37.0	17.7	32.7		
12	56.3	57.3	36.4	40.5	26.8	34.6	14.6	29.5		
13	55.4	56.5	36.4	40.5	25.0	33.5	13.0	29.4		
14	53.3	54.5	35.7	40.3	23.3	32.2				
15	52.2	53.6	33.4	38.5	20.7	30.0				
16	51.4	53.2	32.5	38.1	20.7	30.0				
17	51.4	52.6	31.1	37.2	20.7	30.0				
18	47.4	49.5	29.2	34.2	19.5	30.0				
19	47.4	48.6			19.5	30.0				
20	45.4	47.5								

Table 3b. Observed (obs.) and relative (rel.) survival of patients with sarcoma (morph.) by age category for period 1988-2011 (N=3,820).

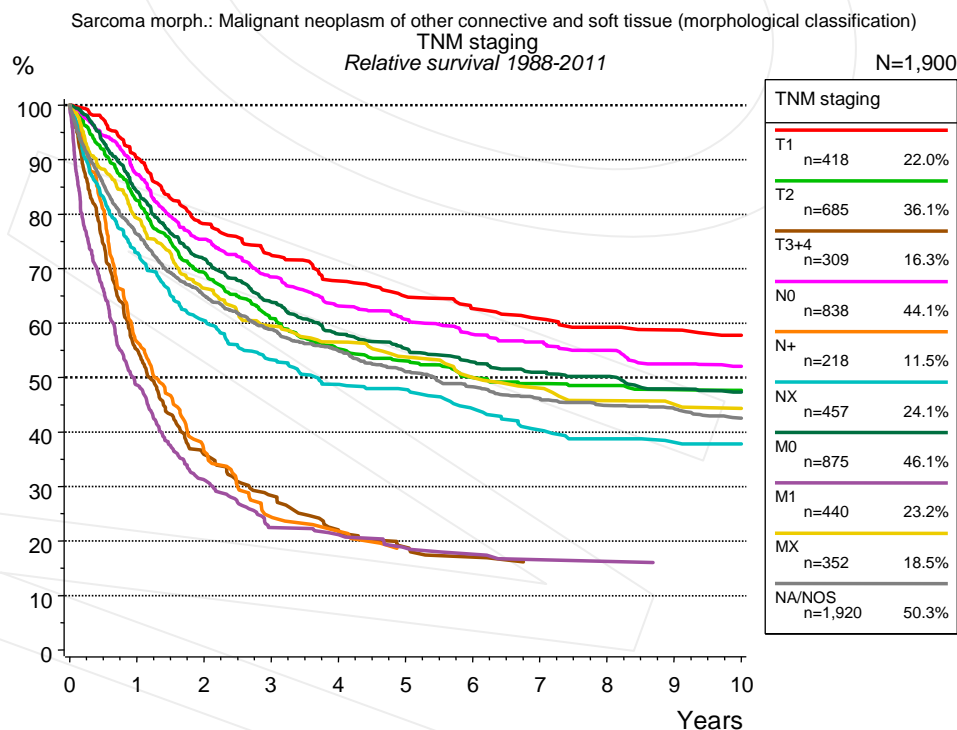


Figure 4a. Relative survival of patients with sarcoma (morph.) by TNM staging. For 1,902 of 3,820 cases diagnosed between 1988 and 2011 valid data could be obtained for this item. For a total of 1,900 cases an evaluable classification was established. The accumulated percentage exceeds the 100% value because patients are potentially considered in more than one subgroup. The grey line represents the subgroup of 1,920 patients with missing values regarding TNM staging (50.3% of 3,820 patients, the percent values of all other categories are related to n=1,900).

TNM staging														
Years	T1 n=418		T2 n=685		T3+4 n=309		N0 n=838		N+ n=218		NX n=457		M0 n=875	
	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	88.3	90.3	80.9	82.5	53.7	55.1	85.7	87.3	55.5	56.5	70.7	72.9	82.5	84.1
2	74.9	78.3	66.9	69.3	34.3	35.8	72.9	75.4	35.4	36.4	57.2	60.5	69.2	71.8
3	68.4	72.5	57.7	60.9	26.7	28.3	65.1	68.4	23.9	24.4	49.1	53.3	60.6	63.9
4	62.8	67.8	51.7	55.2	20.2	21.8	59.2	63.1	21.1	21.8	44.2	48.7	54.1	58.0
5	59.3	64.9	48.8	53.1	17.4	18.8	55.9	60.7	17.5	18.6	42.4	47.8	50.7	55.3
6	56.3	62.7	45.3	50.0	15.6	17.0	52.6	58.0	17.5	18.5	38.4	44.3	47.7	52.9
7	54.0	60.8	43.7	48.9	14.0	16.0	50.6	56.5	17.5	18.4	34.4	40.4	45.3	51.0
8	52.0	59.3	42.9	48.6	14.0	15.5	48.7	55.0	17.5	18.2	32.5	38.8	44.0	50.2
9	50.8	58.7	41.2	47.8			45.7	52.5	17.5	18.1	31.2	38.1	41.3	47.9
10	48.9	57.8	40.5	47.7			44.4	52.1	17.5	18.0	30.6	37.8	40.0	47.3

TNM staging						
<i>cont'd</i>	M1 n=440		MX n=352		NA/NOS n=1,920	
Years	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	47.7	48.6	77.1	79.3	74.4	76.3
2	30.3	31.2	63.1	66.4	62.1	65.1
3	21.5	22.5	55.2	59.5	55.2	58.9
4	20.4	21.1	51.6	56.5	50.5	54.9
5	17.7	18.7	48.1	53.8	46.1	51.1
6	16.7	17.5	43.8	50.0	42.9	48.3
7	15.5	16.5	41.8	48.1	40.5	46.2
8	15.5	16.2	39.0	45.7	38.5	44.9
9	14.6	15.8	37.9	45.1	37.5	44.3
10	14.6	15.2	36.8	44.3	35.4	42.6

Table 4b. Observed (obs.) and relative (rel.) survival of patients with sarcoma (morph.) by TNM staging for period 1988-2011 (N=4,592).

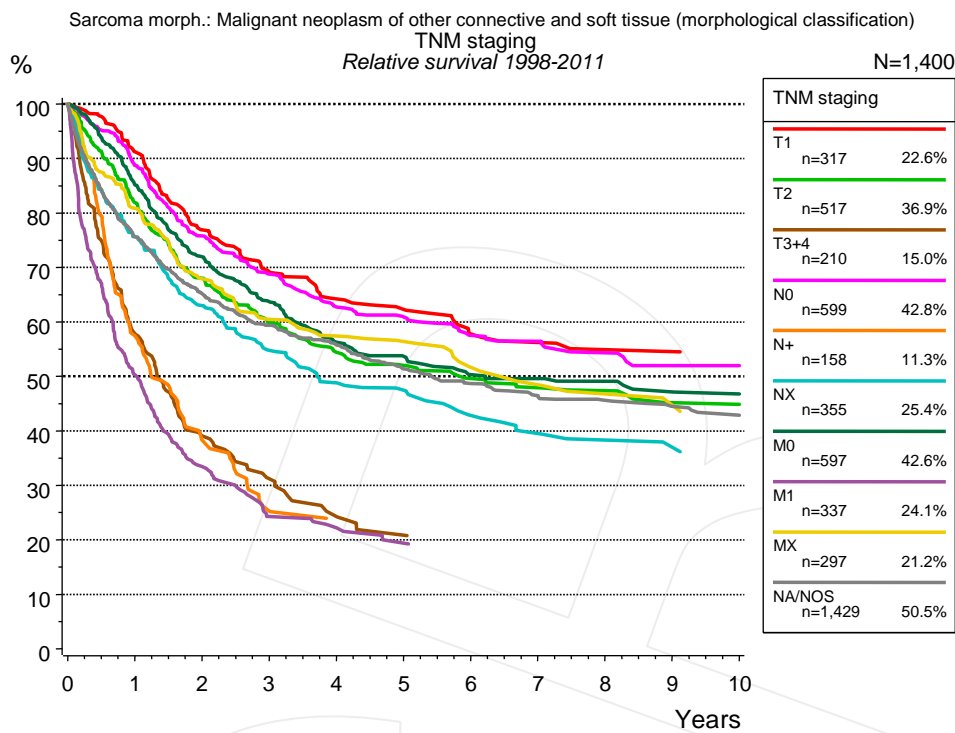


Figure 4c. Relative survival of patients with sarcoma (morph.) by TNM staging. For 1,401 of 2,829 cases diagnosed between 1998 and 2011 valid data could be obtained for this item. For a total of 1,400 cases an evaluable classification was established. The accumulated percentage exceeds the 100% value because patients are potentially considered in more than one subgroup. The grey line represents the subgroup of 1,429 patients with missing values regarding TNM staging (50.5% of 2,829 patients, the percent values of all other categories are related to n=1,400).

Years	TNM staging															
	T1 n=317		T2 n=517		T3+4 n=210		N0 n=599		N+ n=158		NX n=355		M0 n=597			
	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	100.0	
1	89.1	91.2	80.3	81.9	56.3	57.8	87.2	88.7	56.4	57.4	73.3	75.6	83.6	85.2		
2	73.5	76.9	65.7	68.0	37.4	39.0	73.4	75.8	37.3	38.3	59.7	63.0	69.5	72.0		
3	65.1	69.1	56.8	59.9	29.5	31.2	65.6	68.8	25.3	25.3	50.5	54.8	60.6	63.7		
4	59.3	64.2	51.0	54.4	23.3	24.3	59.2	62.7	22.9	23.1	44.3	48.8	52.9	56.3		
5	57.0	62.3	47.9	52.0	20.1	20.8	56.5	60.9			42.2	47.4	49.6	53.7		
6	51.8	57.8	44.9	49.6			52.6	57.5			37.2	42.9	45.9	50.4		
7	50.2	56.2	42.9	47.9			51.4	56.4			34.2	39.5	45.1	49.6		
8	48.3	54.9	41.9	47.4			48.8	54.3			32.4	38.3	44.0	49.1		
9	48.3	54.5	38.9	45.2			46.0	52.0			30.9	37.0	42.0	47.2		
10			38.9	44.9			46.0	51.9			29.3	35.5	41.1	46.8		

cont'd	TNM staging					
	M1 n=337		MX n=297		NA/NOS n=1,429	
Years	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	49.3	50.2	78.7	80.8	73.7	75.6
2	32.3	33.4	64.7	67.9	62.1	65.2
3	23.2	24.3	56.3	60.4	55.4	59.4
4	21.6	22.2	52.8	57.4	51.1	55.8
5	18.8	19.4	50.8	56.4	46.1	51.3
6	18.0	18.4	45.6	51.7	43.1	48.7
7			42.7	48.4	40.4	46.4
8			40.5	46.8	39.0	45.6
9			38.4	44.7	37.3	44.5
10			36.1	42.6	35.7	42.9

Table 4d. Observed (obs.) and relative (rel.) survival of patients with sarcoma (morph.) by TNM staging for period 1998-2011 (N=3,387).

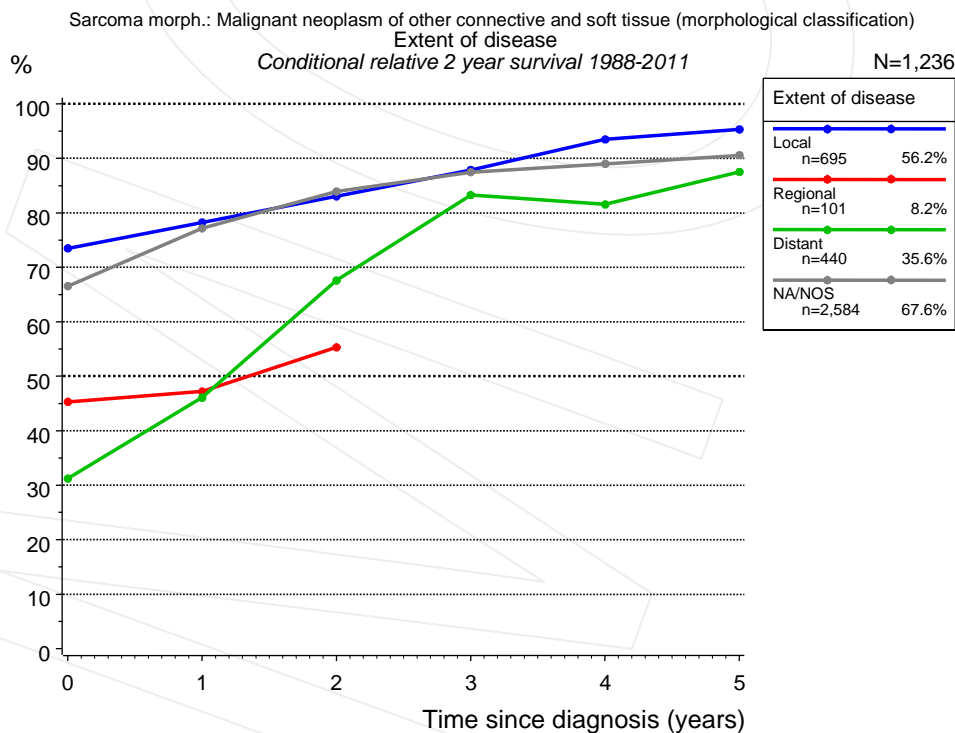


Figure 4e. Conditional relative 2-year survival of patients with sarcoma (morph.) by extent of disease. For 1,902 of 3,820 cases diagnosed between 1988 and 2011 valid data could be obtained for this item. For a total of 1,236 cases an evaluable classification was established. The grey line represents the subgroup of 2,584 patients with missing values regarding extent of disease (67.6% of 3,820 patients, the percent values of all other categories are related to n=1,236).

Years	Extent of disease							
	Local		Regional		Distant		NA/NOS	
	n	Cond. surv. % 2 yrs	n	Cond. surv. % 2 yrs	n	Cond. surv. % 2 yrs	n	Cond. surv. % 2 yrs
0	695	73.5	101	45.3	440	31.2	2,584	66.5
1	558	78.2	59	47.2	199	46.1	1,856	77.1
2	424	83.0	34	55.3	114	67.6	1,425	83.9
3	350	87.9			62	83.3	1,138	87.5
4	291	93.5			51	81.5	905	89.0
5	251	95.3			37	87.5	715	90.6

Table 4f. Conditional relative 2-year survival of patients with sarcoma (morph.) by extent of disease for period 1988-2011 (N=1,236).

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 87.9% (n=350).

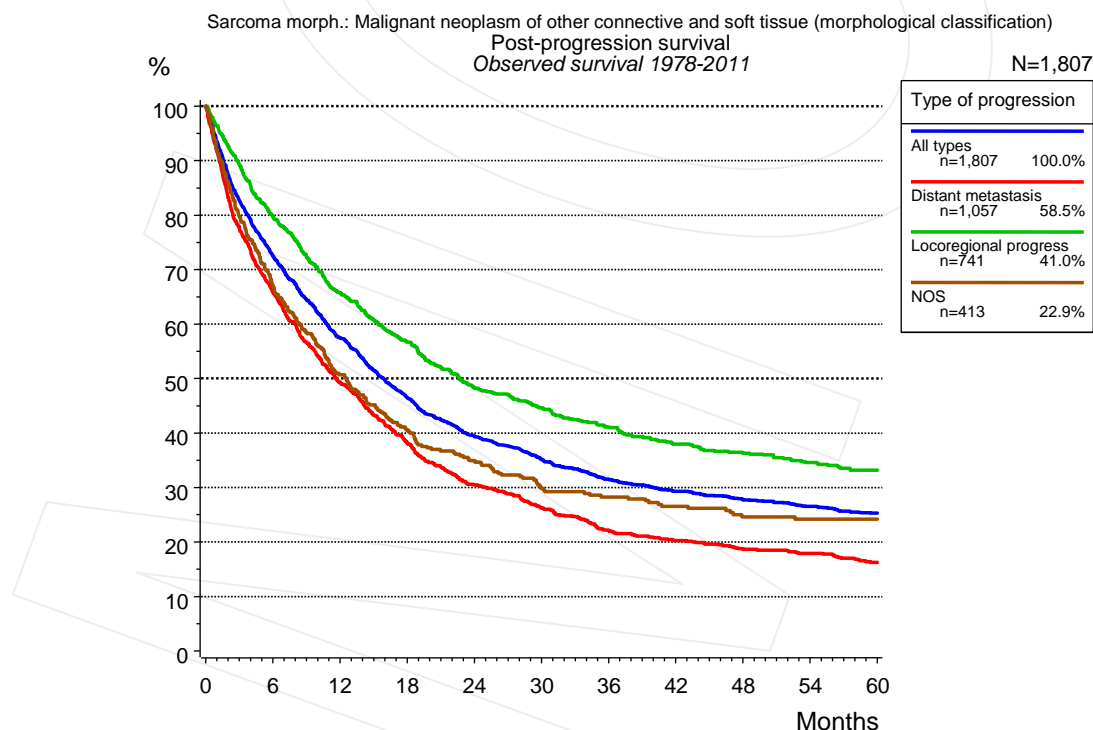


Figure 5a. Observed post-progression survival of 1,807 patients with sarcoma (morph.) diagnosed between 1978 and 2011 (incl. M1). These 1,807 patients with documented progression events during their course of disease represent 42.3% of the totally 4,267 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=571, 13.4%). 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.

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=1,807 %	Distant metastasis n=1,057 %	Locoregional progress n=741 %	NOS n=413 %
0	100.0	100.0	100.0	100.0
12	57.4	49.2	65.8	50.7
24	39.4	30.5	48.3	34.9
36	31.5	22.1	41.1	28.2
48	27.8	18.8	36.3	24.6
60	25.3	16.2	33.2	24.2

Table 5b. Observed post-progression survival of patients with sarcoma (morph.) for period 1978-2011 (N=1,807).

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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