# **Munich Cancer Registry**



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# ICD-10 C48: Peritoneal cancer

### Survival

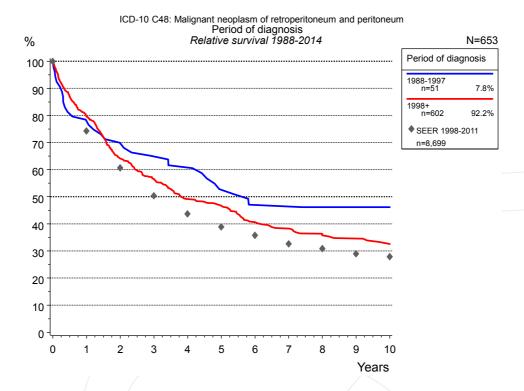
Year of diagnosis	1988-1997	1998-2014
Patients	58	792
Diseases	58	792
Cases evaluated	51	604
Creation date	04/11/2016	
Export date	12/23/2015	
Population	4.64 m	



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

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

 $http://www.tumorregister-muenchen.de/en/facts/surv/sC48\_\_E-ICD-10-C48-Peritoneal-cancer-survival.pdf$ 



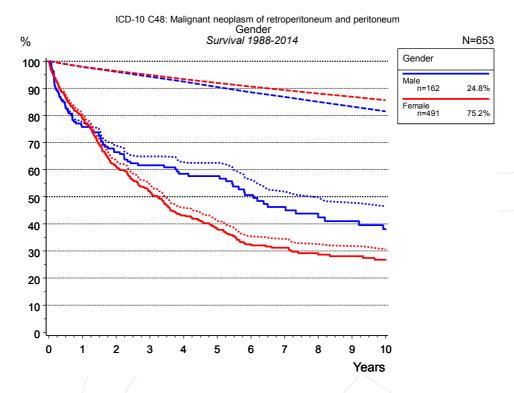
**Figure 1a.** Relative survival of patients with peritoneal cancer by period of diagnosis. Included in the evaluation are 653 cases diagnosed between 1988 and 2014.

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 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.

	Period of diagnosis			
	1988-1997 1998-			98+
	n=51		n=602	
Years	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	76.5	77.9	78.2	79.7
2	66.7	69.7	62.2	64.2
3	60.8	64.9	53.7	56.6
4	56.9	60.8	46.0	49.1
5	47.1	52.6	43.0	46.7
6	41.2	47.0	37.0	40.6
7	41.2	46.4	34.4	38.2
8	39.2	46.2	31.3	35.8
9	39.2	46.2	30.3	34.6
10	39.2	46.2	27.8	32.5
	Years 0 1 2 3 4 5 6 7 8 9	1988- n= Years obs. % 0 100.0 1 76.5 2 66.7 3 60.8 4 56.9 5 47.1 6 41.2 7 41.2 8 39.2 9 39.2	1988-1997 n=51 Years obs. % rel. % 0 100.0 100.0 1 76.5 77.9 2 66.7 69.7 3 60.8 64.9 4 56.9 60.8 5 47.1 52.6 6 41.2 47.0 7 41.2 46.4 8 39.2 46.2 9 39.2 46.2	1988-1997

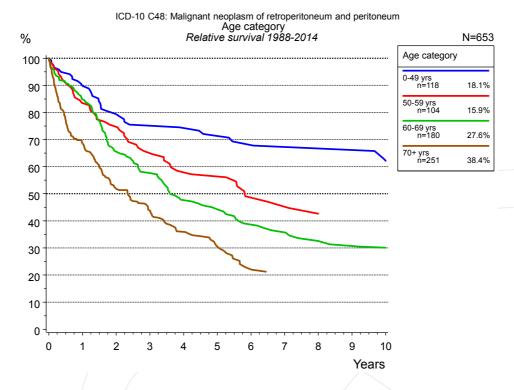
**Table 1b.** Observed (obs.) and relative (rel.) survival of patients with peritoneal cancer by period of diagnosis for period 1988-2014 (N=653).



**Figure 2a.** Survival of patients with peritoneal cancer by gender. Included in the evaluation are 653 cases diagnosed between 1988 and 2014.

Gender								
	Ma	ale	Female					
	n=1	162	n=491					
Years	obs. %	rel. %	obs. %	rel. %				
0	100.0	100.0	100.0	100.0				
1	75.8	77.3	78.8	80.4				
2	66.5	68.9	61.3	63.2				
3	61.6	64.9	51.9	54.6				
4	58.5	62.8	43.1	45.9				
5	57.6	62.5	38.1	41.2				
6	50.6	56.3	32.5	35.4				
7	46.2	51.9	31.2	34.5				
8	42.4	49.8	28.7	32.5				
9	41.0	47.8	28.1	31.8				
10	38.0	46.4	26.8	30.7				

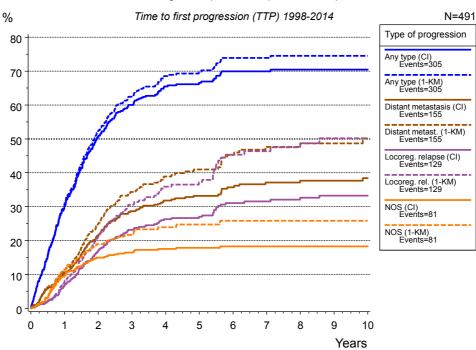
**Table 2b.** Observed (obs.) and relative (rel.) survival of patients with peritoneal cancer by gender for period 1988-2014 (N=653).



**Figure 3a.** Relative survival of patients with peritoneal cancer by age category. Included in the evaluation are 653 cases diagnosed between 1988 and 2014.

Age category										
	0-49	yrs	50-59 yrs		60-69 yrs		70+ yrs			
	n=1	118	n=104		n=1	80	n=2	251		
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	89.7	89.8	83.2	83.4	84.1	84.9	66.1	68.6		
2	79.3	79.3	74.8	74.7	64.6	65.5	48.2	51.9		
3	75.3	75.1	64.9	65.0	55.6	57.6	39.1	43.8		
4	74.1	74.2	57.3	57.9	45.5	47.6	30.8	35.9		
5	71.6	71.3	55.8	56.3	42.2	44.3	24.6	30.5		
6	68.8	67.9	47.4	48.6	36.0	38.7	17.5	22.1		
7	67.2	67.3	45.1	45.2	33.2	35.8	15.5	20.8		
8	67.2	66.7	40.4	42.6	28.7	32.5				
9	67.2	66.1	40.4	41.7	27.3	30.7				
10	62.0	62.2	40.4	40.8	25.9	30.1				

**Table 3b.** Observed (obs.) and relative (rel.) survival of patients with peritoneal cancer by age category for period 1988-2014 (N=653).



ICD-10 C48: Malignant neoplasm of retroperitoneum and peritoneum

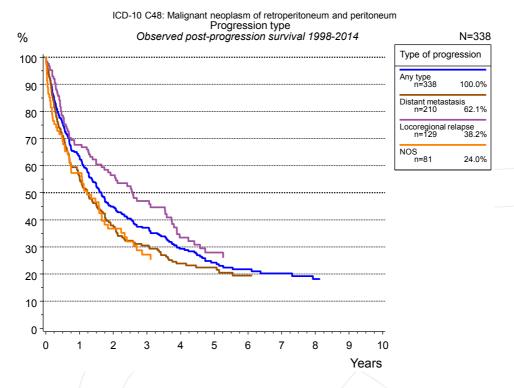
**Figure 5a.** Time to first progression of 491 patients with peritoneal cancer diagnosed between 1998 and 2014 (M0 only in solid cancers) estimated by cumulative incidence function (CI, solid line) accounting for death as competing risk and by inverse Kaplan-Meier estimate (1-KM, dashed line). The frequency of events may be underestimated due to underreporting.

	Type of progression  Distant Distant										
	Any type (CI)	Any type (1-KM)	metastasis (CI)	metast. (1- KM)	Locoreg. relapse (CI)	Locoreg. rel. (1-KM)	NOS (CI)				
	n=491	n=491	n=491	n=491	n=491	n=491	n=491				
Years	%	%	%	%	%	%	%				
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
1	30.5	31.1	10.5	11.5	7.0	8.1	9.7				
2	50.8	52.4	21.5	25.0	17.0	21.3	14.9				
3	60.0	62.5	28.6	34.3	23.2	30.5	16.4				
4	65.5	68.5	31.8	38.9	26.3	35.9	17.5				
5	66.6	69.8	33.2	41.0	27.0	37.2	17.9				
6	70.0	73.9	35.7	45.3	31.1	45.4	18.3				
7	70.0	73.9	37.1	47.7	31.5	46.4	18.3				
8	70.5	74.5	37.7	48.7	32.6	48.7	18.3				
9	70.5	74.5	37.7	48.7	33.3	50.2	18.3				
10	70.5	74.5	38.4	50.1	33.3	50.2	18.3				

Type of							
	gression						
cont'd	NOS (1-KM)						
	n=491						
Years	%						
0	0.0						
1	11.4						
2	18.9						
3	21.7						
4	23.9						
5	24.7						
6	25.9						
7	25.9						
8	25.9						
9	25.9						
10	25.9						

**Table 5b.** Time to first progression of patients with peritoneal cancer for period 1998-2014 (N=491).



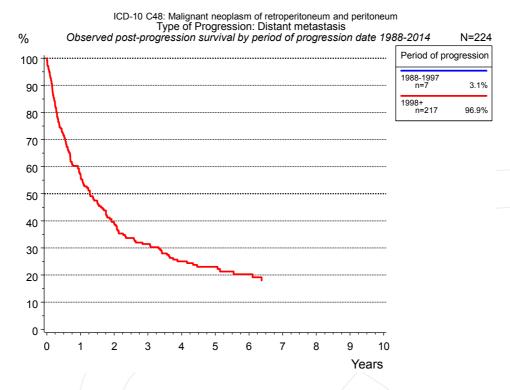


**Figure 5c.** Observed post-progression survival of 338 patients with peritoneal cancer diagnosed between 1998 and 2014. These 338 patients with documented progression events during their course of disease represent 56.1 % of the totally 602 evaluated cases (incl. M1, n=111, 18.4 %). Patients with cancer relapse documented via death certificates only were excluded (n=78, 13.0 %). Multiple progression types on different sites are included in the evaluation even when not occuring 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 "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 potientially considered in more than one subgroup.

	Any type n=338	Type of progr Distant metastasis n=210		NOS n=81
Years	%	%	%	%
0	100.0	100.0	100.0	100.0
1	63.5	56.3	67.7	57.3
2	44.9	37.9	56.5	36.8
3	37.1	30.5	47.0	27.2
4	29.3	23.9	33.5	
5	24.3	22.4	27.9	
6	21.8	19.4		
7	20.2			
8	18.2			

**Table 5d.** Observed post-progression survival of patients with peritoneal cancer for period 1998-2014 (N=338).



**Figure 5e.** Observed post-progression (distant metastasis) survival of 224 patients with peritoneal cancer diagnosed between 1988 and 2014 by period of progression.

P	Period of progression								
	1988-1997	1998+							
	n=7	n=217							
Years	%	%							
0	100.0	100.0							
1		57.3							
2		39.1							
3		31.4							
4		25.1							
5		23.0							
6		20.3							
7		18.0							
8		18.0							

**Table 5f.** Observed post-progression (distant metastasis) survival of patients with peritoneal cancer for period 1988-2014 by period of progression (N=224).



#### **Shortcuts**

Munich Cancer Registry, Germany					
National Cancer Institute, USA					
Surveillance, Epidemiology, and End Results, USA					
Union for International Can	cer Control, Geneva				
Death certificate only	Death certificate provides the only notification to the registry.				
Not available					
Not otherwise specified					
Overall/Observed survival	Overall/Observed survival (Kaplan-Meier estimate) Date of entry: diagnosis Event: death from any cause				
Relative survival	Survival compared to "general population", ratio of observed to expected survival (Ederer II method), reflecting cancer specific survival				
Assembled survival	Assembled chart of observed, expected, relative survival				
Conditional survival	Survival probability under the condition of surviving a given period of time				
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)				
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				
	National Cancer Institute, L Surveillance, Epidemiology Union for International Cand Death certificate only Not available Not otherwise specified Overall/Observed survival Relative survival Assembled survival Conditional survival Time to progression				

#### **Recommended Citation**

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