# **Munich Cancer Registry**



- Incidence and Mortality
- Selection Matrix
- Homepage
- Deutsch

## ICD-10 C18: Colon cancer



### Survival

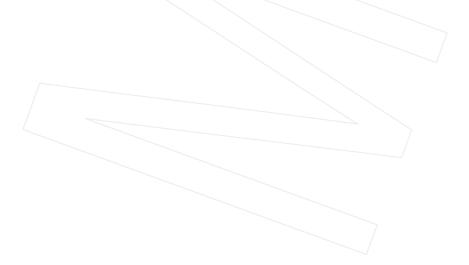
Munich Cancer Registry Cancer Registry Bavaria - Upper Bavaria Regional Center at Klinikum Grosshadern/IBE Marchioninistr. 15 Munich, 81377 Germany

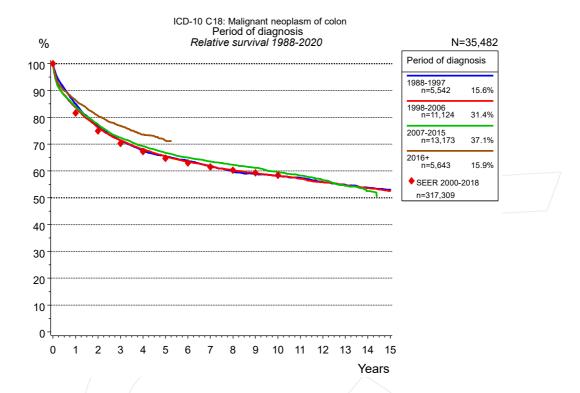
https://www.tumorregister-muenchen.de/en

https://www.tumorregister-muenchen.de/en/facts/surv/sC18\_E-ICD-10-C18-Colon-cancer-survival.pdf

### Index of figures and tables

Fig./Tb	I.	Page
1a	Relative survival by period of diagnosis (chart)	3
1b	Survival by period of diagnosis (table)	3
2a	Survival by sex (chart)	4
2b	Survival by sex (table)	4
3a	Observed survival by age category (chart)	5
3b	Relative survival by age category (chart)	5
3c	Survival by age category (table)	6
4a	Relative survival by UICC (chart)	7
4b	Survival by UICC (table)	7
4c	Conditional survival by UICC (chart)	8
4d	Conditional survival by UICC (table)	8
4g	Relative survival by TNM staging 1998+ (chart)	9
4h	Survival by TNM staging 1998+ (table)	9
4i	Relative survival by TNM staging 1998+ (chart)	11
4j	Survival by TNM staging 1998+ (table)	11
5a	Time to first progression (chart)	13
5b	Time to first progression (table)	13
5c	Observed post-progression survival (chart)	15
5d	Observed post-progression survival (table)	15
5e	Observed post-progression survival by period of progression (chart)	16
5f	Observed post-progression survival by period of progression (table)	16





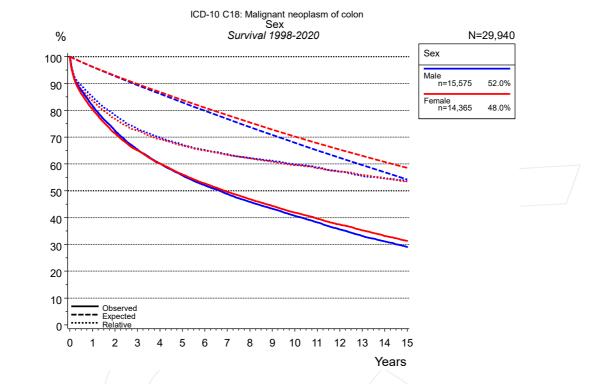
**Figure 1a.** Relative survival of patients with colon cancer by period of diagnosis. Included in the evaluation are 35,482 cases diagnosed between 1988 and 2020.

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 2018, 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 populationbased 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-	2006	2007-	2015	201	6+		
	n=5,	542	n=11	,124	n=13	,173	n=5,	643		
Years	obs. %	rel. %								
0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0		
1	81.7	85.0	80.4	83.8	80.8	84.1	83.3	86.4		
2	70.9	76.5	70.6	76.2	71.9	77.4	75.1	80.5		
3	63.7	71.4	63.7	71.4	64.9	72.4	69.3	76.8		
4	58.1	67.5	58.7	68.2	59.9	69.2	64.1	73.6		
5	54.4	65.6	54.5	65.6	55.7	66.8	60.1	71.4		
6	50.9	63.7	50.8	63.4	52.3	65.0	35.0			
7	47.6	61.8	47.6	61.7	49.3	63.5				
8	44.2	59.7	44.8	60.3	46.5	62.3				
9	42.0	58.9	42.3	59.2	44.0	61.2				
10	39.9	58.2	40.0	58.1	41.1	59.5				
11	37.9	57.4	37.7	57.1	38.7	58.3				
12	35.5	55.9	35.5	55.8	36.1	56.6				
13	33.6	54.8	33.3	54.6	33.4	54.5				
14	31.6	53.8	31.3	53.5	31.0	52.5				
15	29.9	53.0	29.5	52.5						
Median	6.3		6.2		6.8					

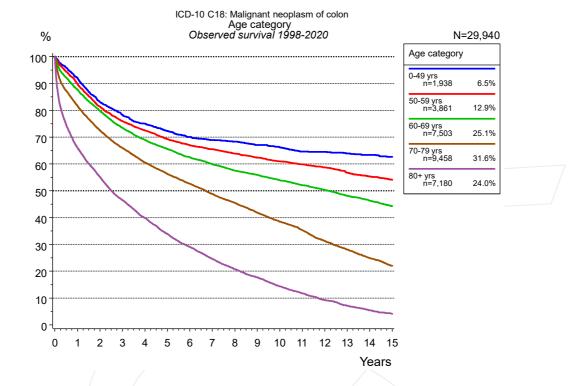
**Table 1b.** Observed (obs.) and relative (rel.) survival of patients with colon cancer by period of diagnosis for period 1988-2020 (N=35,482).



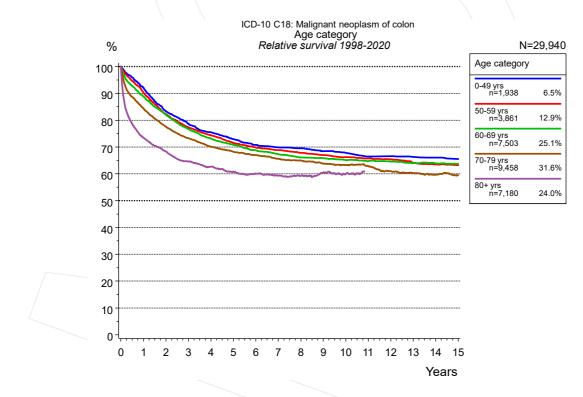
**Figure 2a.** Survival of patients with colon cancer by sex. Included in the evaluation are 29,940 cases diagnosed between 1998 and 2020.

		Sex		
	Ma	le	Ferr	nale
	n=15	,575	n=14	,365
Years	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	81.8	85.1	80.4	83.6
2	72.5	78.1	71.4	76.9
3	65.4	73.1	65.1	72.4
4	60.2	69.8	60.1	69.2
5	55.8	67.2	56.1	66.9
6	52.1	65.2	52.7	65.0
7	48.8	63.6	49.6	63.4
8	45.9	62.2	46.9	62.1
9	43.3	61.2	44.3	60.8
10	40.6	59.8	41.8	59.5
11	38.2	58.7	39.6	58.4
12	35.6	57.1	37.4	57.2
13	33.2	55.6	35.2	55.9
14	31.1	54.6	33.1	54.5
15	29.1	53.6	31.3	53.5
Median	6.7		6.9	

**Table 2b.** Observed (obs.) and relative (rel.) survival of patients with colon cancer by sex for period 1998-2020 (N=29,940).



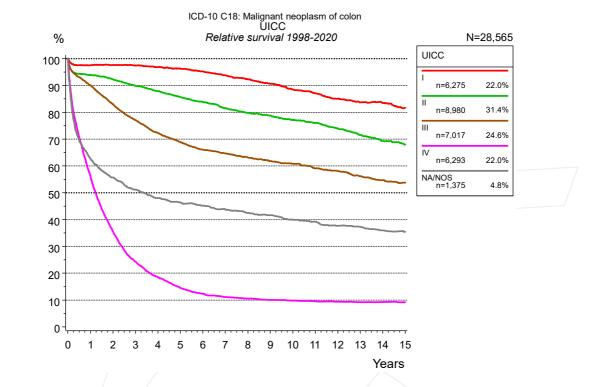
**Figure 3a.** Observed survival of patients with colon cancer by age category. Included in the evaluation are 29,940 cases diagnosed between 1998 and 2020.



**Figure 3b.** Relative survival of patients with colon cancer by age category. Included in the evaluation are 29,940 cases diagnosed between 1998 and 2020.

Age category										
	0-49	yrs	50-5	9 yrs	60-6	9 yrs	70-7	9 yrs	80+	yrs
	n=1,	938	n=3,	,861	n=7,	503	n=9,458		n=7,180	
Years	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	92.0	92.1	89.9	90.4	87.7	88.9	81.7	84.4	66.1	73.5
2	83.1	83.3	81.4	82.3	79.8	82.0	72.5	77.5	55.2	68.3
3	78.3	78.6	75.9	77.3	73.5	76.7	66.0	73.3	46.5	64.6
4	75.0	75.5	72.5	74.3	69.0	73.2	60.5	70.1	39.9	62.7
5	72.3	73.0	69.2	71.6	65.6	70.8	56.3	68.2	33.9	60.8
6	70.0	70.8	66.9	69.8	62.5	68.8	52.6	67.0	29.0	60.1
7	68.9	69.9	65.5	68.9	59.9	67.3	48.8	65.7	24.5	59.2
8	68.3	69.5	63.9	67.8	57.5	66.1	45.5	65.0	20.7	59.2
9	67.1	68.5	62.4	67.0	55.9	65.9	41.8	63.9	17.6	60.5
10	66.2	67.8	61.0	66.2	53.9	65.2	38.5	63.3	14.3	60.0
11	64.7	66.5	59.8	65.8	52.0	64.8	35.2	62.8	11.7	60.7
12	64.5	66.6	58.7	65.4	50.3	64.6	31.3	60.9	9.3	60.9
13	63.9	66.3	56.7	64.1	48.1	64.0	28.0	60.2	7.2	61.0
14	63.4	66.1	55.4	63.5	46.2	63.9	24.9	59.6	5.4	61.2
15	62.6	65.5	54.1	63.2	44.2	63.7	22.0	59.6	4.1	63.9
Median			18.9		12.1		6.7		2.5	

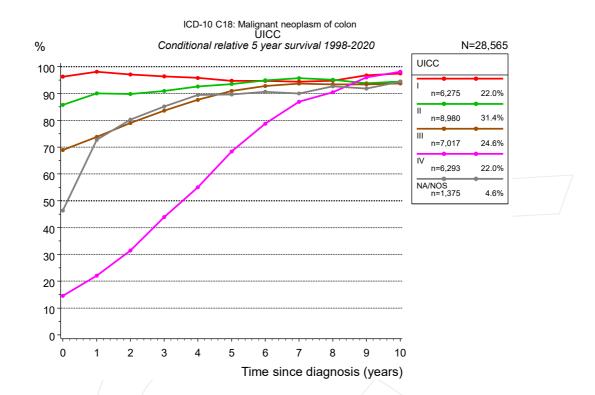
**Table 3c.** Observed (obs.) and relative (rel.) survival of patients with colon cancer by age category for period 1998-2020 (N=29,940).



**Figure 4a.** Relative survival of patients with colon cancer by UICC. For 28,695 of 29,940 cases diagnosed between 1998 and 2020 valid data could be obtained for this item. For a total of 28,565 cases an evaluable classification was established. The grey line represents the subgroup of 1,375 patients with missing values regarding UICC (4.6 % of 29,940 patients, the percent values of all other categories are related to n=28,565).

					11100					
					UICC					
			II		II	I	١١	/	NA/N	IOS
	n=6,	275	n=8,980		n=7,017		n=6,293		n=1,	375
Years	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	94.4	97.6	89.9	93.9	86.7	90.1	54.3	56.2	59.1	62.8
2	91.5	97.7	84.9	92.3	77.2	83.0	33.4	35.5	50.1	55.7
3	88.3	97.5	79.5	89.9	69.2	77.1	22.3	24.3	44.3	51.2
4	84.8	96.9	74.6	87.9	62.7	72.3	16.6	18.5	40.2	48.1
5	81.4	96.3	69.9	85.7	57.8	68.9	12.7	14.5	37.5	46.4
6	77.6	95.2	65.6	83.9	53.5	66.1	10.6	12.4	35.4	45.2
7	73.7	93.8	61.2	81.5	50.6	64.7	9.2	11.1	33.4	43.8
8	69.9	92.3	57.5	79.9	47.7	63.2	8.5	10.5	31.3	42.5
9	66.1	90.6	54.4	78.9	45.0	61.8	7.9	10.0	29.8	41.7
10	62.1	88.5	51.0	77.1	42.7	60.8	7.5	9.8	27.9	40.1
11	58.7	87.0	48.1	76.0	40.0	59.1	7.1	9.5	26.6	39.2
12	55.1	85.1	44.9	74.0	37.9	58.1	6.7	9.3	24.7	37.7
13	52.0	83.7	41.6	71.6	35.4	56.2	6.4	9.2	23.9	37.3
14	49.7	83.4	38.5	69.3	33.1	54.7	6.2	9.2	22.4	36.0
15	46.6	81.7	36.0	67.9	31.3	53.7	6.0	9.2	21.4	35.4
Median	13.9		10.4		7.2		1.1		2.1	

**Table 4b.** Observed (obs.) and relative (rel.) survival of patients with colon cancer by UICC for period 1998-2020 (N=28,565).

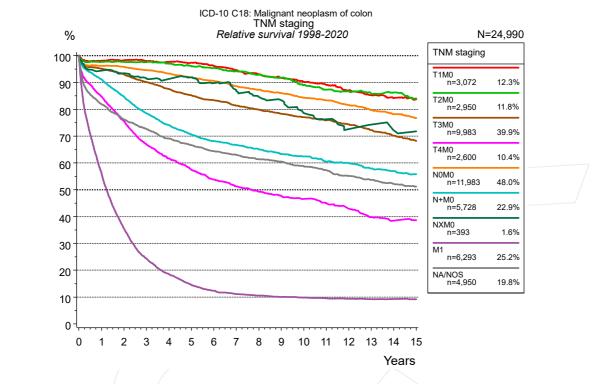


**Figure 4c.** Conditional relative 5-year survival of patients with colon cancer by UICC. For 28,695 of 29,940 cases diagnosed between 1998 and 2020 valid data could be obtained for this item. For a total of 28,565 cases an evaluable classification was established. The grey line represents the subgroup of 1,375 patients with missing values regarding UICC (4.6 % of 29,940 patients, the percent values of all other categories are related to n=28,565).

					UICC					
	1		II		III		IV		NA/NOS	
		Cond. surv. %	Cond. surv. %			Cond. surv. %		Cond. surv. %		Cond. surv. %
Years	n	5 yrs	n	5 yrs	n	5 yrs	n	5 yrs	n	5 yrs
0	6,275	96.3	8,980	85.7	7,017	68.9	6,293	14.5	1,375	46.4
1	5,727	98.1	7,853	90.1	5,931	73.9	3,345	22.1	787	72.7
2	5,370	97.1	7,129	89.8	5,089	79.0	1,972	31.4	660	80.3
3	4,950	96.4	6,366	91.0	4,368	83.6	1,233	43.9	567	85.1
4	4,490	95.8	5,666	92.6	3,731	87.6	845	55.1	499	89.4
5	4,034	94.7	4,971	93.6	3,210	91.0	593	68.3	447	89.6
6	3,655	94.7	4,368	94.9	2,796	92.8	444	78.7	406	90.6
7	3,260	94.5	3,817	95.8	2,498	93.7	353	86.9	371	90.0
8	2,908	94.8	3,335	95.2	2,198	93.4	296	90.5	335	92.7
9	2,532	96.7	2,906	93.9	1,912	93.4	247	96.0	305	91.8
10	2,184	97.4	2,517	94.5	1,673	93.7	212	98.1	273	94.4

**Table 4d.** Conditional relative 5-year survival of patients with colon cancer by UICC for period 1998-2020 (N=28,565).

Conditional relative survival rates refer to the relative survival probability, in this case for 5 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 4a). 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 UICC="1", who are alive at least 3 years after cancer diagnosis, the conditional relative 5-year survival rate is 96.4% (n=4,950).

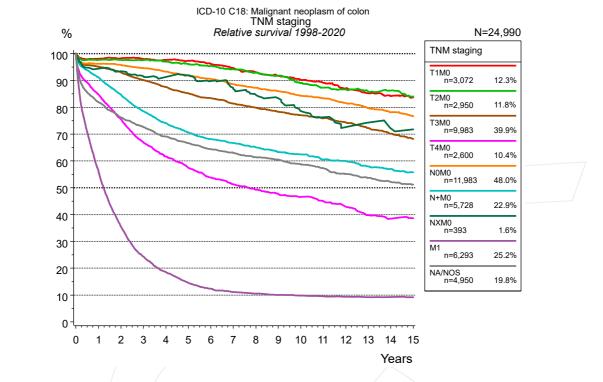


**Figure 4g.** Relative survival of patients with colon cancer by TNM staging. For 28,695 of 29,940 cases diagnosed between 1998 and 2020 valid data could be obtained for this item. For a total of 24,990 cases an evaluable classification was established. The accumulated percentage exceeds the 100 % value because patients are potientially considered in more than one subgroup. The grey line represents the subgroup of 4,950 patients with missing values regarding TNM staging (16.5 % of 29,940 patients, the percent values of all other categories are related to n=24,990).

						TN	M stagi	ing						
	T1I	V0	T2I	M0	T3I		T4I	-	NO	MO	N+	MO	NX	MO
	n=3,	072	n=2,	950	n=9,	983	n=2,	600	n=11	,983	n=5,	728	n=3	393
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	95.4	98.1	94.4	97.7	91.4	95.2	81.2	84.8	92.7	96.3	87.9	91.2	91.8	94.4
2	92.9	98.3	91.2	97.7	86.1	93.1	69.7	75.6	88.9	95.8	78.9	84.8	88.6	93.4
3	90.0	98.0	87.9	97.7	80.3	90.1	59.5	66.9	84.6	94.6	70.7	78.5	84.9	91.6
4	87.0	97.7	84.2	97.0	75.1	87.5	53.0	61.7	80.3	93.3	64.5	74.1	82.4	91.3
5	84.2	97.4	80.2	96.1	70.4	85.3	47.6	57.5	76.2	91.9	59.6	70.7	80.9	91.9
6	80.5	96.1	76.7	95.4	66.2	83.4	43.1	53.8	72.3	90.6	55.5	68.1	76.7	89.8
7	76.7	94.6	72.9	94.2	62.1	81.4	39.7	51.3	68.0	88.6	52.5	66.7	71.9	86.8
8	73.0	93.1	69.1	92.9	58.6	79.9	36.8	49.3	64.4	87.3	49.5	65.1	68.5	84.7
9	69.6	91.8	65.6	91.7	55.2	78.4	34.4	47.8	61.0	86.1	46.5	63.4	65.7	83.4
10	66.0	90.2	61.3	89.1	52.0	77.0	32.3	46.6	57.4	84.3	44.2	62.4	59.4	78.6
11	62.8	89.1	57.7	87.3	49.2	75.9	30.0	44.9	54.4	83.3	41.3	60.5	55.8	76.3
12	59.2	87.1	55.0	86.7	46.2	74.4	27.7	43.0	51.2	81.6	39.4	59.9	50.6	72.6
13	55.8	85.2	52.4	85.8	43.1	72.3	24.8	39.8	47.9	79.7	36.8	57.9	49.5	74.3
14	52.9	84.2	50.3	86.2	40.0	70.1	23.1	38.5	45.0	78.2	34.8	57.0	46.0	72.2
15	50.6	83.7	47.1	84.1	37.2	68.2	22.4	38.7	42.2	76.7	32.8	55.8	44.7	71.8
Median	15.2		14.1		10.8		4.6		12.4		7.8		12.9	

TNM staging											
cont'd	Μ	1	NA/N	IOS							
	n=6,	293	n=4,	950							
Years	obs. %	rel. %	obs. %	rel. %							
0	100.0	100.0	100.0	100.0							
1	54.3	56.2	78.0	82.0							
2	33.4	35.5	69.5	76.2							
3	22.3	24.3	63.6	72.6							
4	16.6	18.5	58.2	69.1							
5	12.7	14.5	54.0	66.7							
6	10.6	12.4	50.2	64.4							
7	9.2	11.1	47.3	63.1							
8	8.5	10.5	44.3	61.4							
9	7.9	10.0	41.9	60.5							
10	7.5	9.8	39.2	58.8							
11	7.1	9.5	36.7	57.3							
12	6.7	9.3	33.9	55.1							
13	6.4	9.2	31.8	53.7							
14	6.2	9.2	29.7	52.3							
15	6.0	9.2	27.9	51.3							
Median	1.1		6.1								

**Table 4h.** Observed (obs.) and relative (rel.) survival of patients with colon cancer by TNM staging for period 1998-2020 (N=24,990).

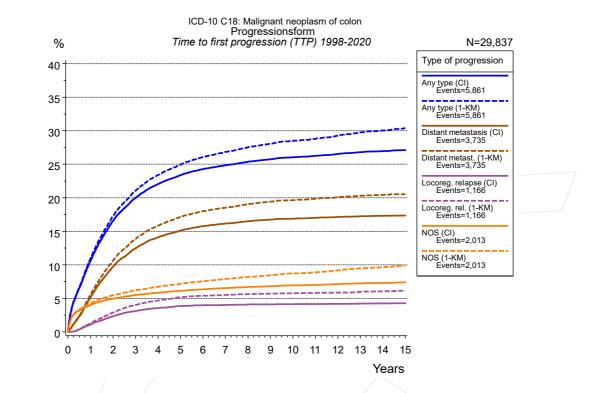


**Figure 4i.** Relative survival of patients with colon cancer by TNM staging. For 28,695 of 29,940 cases diagnosed between 1998 and 2020 valid data could be obtained for this item. For a total of 24,990 cases an evaluable classification was established. The accumulated percentage exceeds the 100 % value because patients are potientially considered in more than one subgroup. The grey line represents the subgroup of 4,950 patients with missing values regarding TNM staging (16.5 % of 29,940 patients, the percent values of all other categories are related to n=24,990).

						TN	<b>//</b> stagi	na						
	T1I	M0	T2I	M0	ТЗГ		T4I	-	NO	MO	N+	MO	NX	MO
	n=3,	072	n=2,	950	n=9,	983	n=2,	600	n=11	,983	n=5,	728	n=3	93
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	95.4	98.1	94.4	97.7	91.4	95.2	81.2	84.8	92.7	96.3	87.9	91.2	91.8	94.4
2	92.9	98.3	91.2	97.7	86.1	93.1	69.7	75.6	88.9	95.8	78.9	84.8	88.6	93.4
3	90.0	98.0	87.9	97.7	80.3	90.1	59.5	66.9	84.6	94.6	70.7	78.5	84.9	91.6
4	87.0	97.7	84.2	97.0	75.1	87.5	53.0	61.7	80.3	93.3	64.5	74.1	82.4	91.3
5	84.2	97.4	80.2	96.1	70.4	85.3	47.6	57.5	76.2	91.9	59.6	70.7	80.9	91.9
6	80.5	96.1	76.7	95.4	66.2	83.4	43.1	53.8	72.3	90.6	55.5	68.1	76.7	89.8
7	76.7	94.6	72.9	94.2	62.1	81.4	39.7	51.3	68.0	88.6	52.5	66.7	71.9	86.8
8	73.0	93.1	69.1	92.9	58.6	79.9	36.8	49.3	64.4	87.3	49.5	65.1	68.5	84.7
9	69.6	91.8	65.6	91.7	55.2	78.4	34.4	47.8	61.0	86.1	46.5	63.4	65.7	83.4
10	66.0	90.2	61.3	89.1	52.0	77.0	32.3	46.6	57.4	84.3	44.2	62.4	59.4	78.6
11	62.8	89.1	57.7	87.3	49.2	75.9	30.0	44.9	54.4	83.3	41.3	60.5	55.8	76.3
12	59.2	87.1	55.0	86.7	46.2	74.4	27.7	43.0	51.2	81.6	39.4	59.9	50.6	72.6
13	55.8	85.2	52.4	85.8	43.1	72.3	24.8	39.8	47.9	79.7	36.8	57.9	49.5	74.3
14	52.9	84.2	50.3	86.2	40.0	70.1	23.1	38.5	45.0	78.2	34.8	57.0	46.0	72.2
15	50.6	83.7	47.1	84.1	37.2	68.2	22.4	38.7	42.2	76.7	32.8	55.8	44.7	71.8
Median	15.2		14.1		10.8		4.6		12.4		7.8		12.9	

	TN	M stag	ing	
cont'd	Μ	1	NA/N	NOS
	n=6,	293	n=4,	,950
Years	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	54.3	56.2	78.0	82.0
2	33.4	35.5	69.5	76.2
3	22.3	24.3	63.6	72.6
4	16.6	18.5	58.2	69.1
5	12.7	14.5	54.0	66.7
6	10.6	12.4	50.2	64.4
7	9.2	11.1	47.3	63.1
8	8.5	10.5	44.3	61.4
9	7.9	10.0	41.9	60.5
10	7.5	9.8	39.2	58.8
11	7.1	9.5	36.7	57.3
12	6.7	9.3	33.9	55.1
13	6.4	9.2	31.8	53.7
14	6.2	9.2	29.7	52.3
15	6.0	9.2	27.9	51.3
Median	1.1		6.1	

**Table 4j.** Observed (obs.) and relative (rel.) survival of patients with colon cancer by TNM staging for period 1998-2020 (N=24,990).

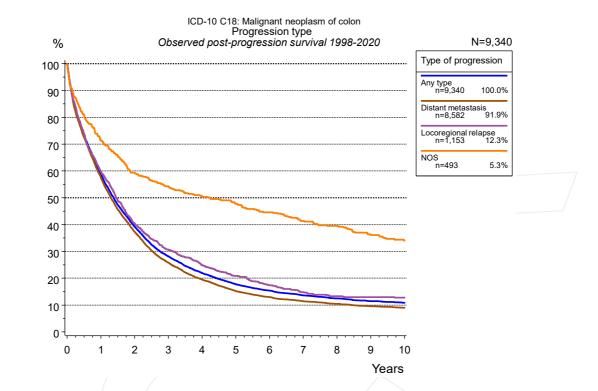


**Figure 5a.** Time to first progression of 29,837 patients with colon cancer diagnosed between 1998 and 2020 (in solid cancers M0 only) estimated by cumulative incidence function (CI, solid line) accounting for death as competing risk and by inverse Kaplan-Meier estimate (1-KM, dashed line). The frequency of events may be underestimated due to underreporting.

	Type of progression									
	Any type (CI)	Any type (1- KM)	Distant metastasis (CI)	Distant metast. (1- KM)	Locoreg. relapse (CI)	Locoreg. rel. (1-KM)	NOS (CI)			
N	23,645	23,645	23,647	23,647	29,837	29,837	29,835			
Events	5,818	5,818	3,720	3,720	1,160	1,160	1,988			
compet.	6,406		8,221		15,916		15,034			
Years	%	%	%	%	%	%	%			
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
1	10.6	10.9	5.2	5.5	1.1	1.3	4.0			
2	16.5	17.3	9.7	10.6	2.3	2.9	5.0			
3	20.0	21.0	12.5	13.9	3.1	4.0	5.5			
4	22.1	23.4	14.1	15.8	3.6	4.7	5.8			
5	23.4	24.9	15.1	17.1	3.8	5.2	6.1			
6	24.3	26.1	15.8	18.0	4.0	5.4	6.3			
7	24.9	26.8	16.2	18.5	4.0	5.5	6.5			
8	25.4	27.5	16.5	19.1	4.1	5.6	6.7			
9	25.7	28.0	16.7	19.4	4.1	5.7	6.8			
10	26.0	28.5	16.9	19.6	4.2	5.8	6.9			
11	26.3	28.8	17.0	19.9	4.2	5.8	7.0			
12	26.5	29.3	17.1	20.1	4.2	5.9	7.1			
13	26.8	29.8	17.2	20.3	4.2	6.0	7.2			
14	27.0	30.1	17.3	20.5	4.3	6.1	7.3			
15	27.1	30.4	17.3	20.5	4.3	6.1	7.4			

Type of progression
cont'd NOS (1-KM)
N 29,835
Events 1,988
compet.
Years %
0 0.0
1 4.3
2 5.5
3 6.2
4 6.7
5 7.1
6 7.6
7 7.9
8 8.2
9 8.4
10 8.7
11 8.9
12 9.2
13 9.5
14 9.7
15 9.9

**Table 5b.** Time to first progression of patients with colon cancer for period 1998-2020 (N=29,837), also showing the total of progression events (Events) and of deaths as competing risk (compet.).

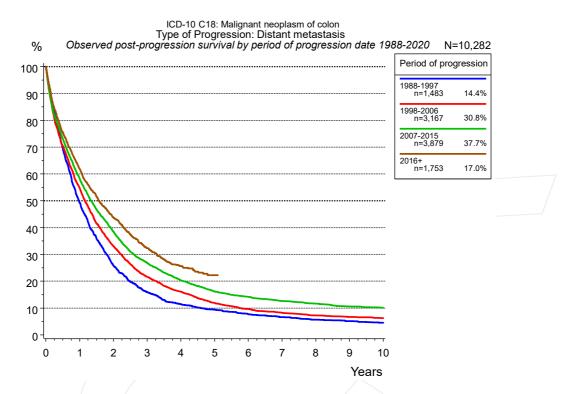


**Figure 5c.** Observed post-progression survival of 9,340 patients with colon cancer diagnosed between 1998 and 2020. These 9,340 patients with documented progression events during their course of disease represent 31.3 % of the totally 29,837 evaluated cases (incl. M1, n=6,192, 20.8 %). Patients with cancer relapse documented via death certificates only were excluded (n=2,713, 9.1 %). 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.

	<b>T</b> Any type n=9,340	<b>ype of prog</b> Distant metastasis n=8,582	<b>ession</b> Locoregional relapse n=1,153	NOS n=493
Years	%	%	%	%
0	100.0	100.0	100.0	100.0
1	58.9	57.6	59.7	71.5
2	39.2	37.3	40.5	59.2
3	28.2	25.8	30.7	54.3
4	21.9	19.5	24.8	50.5
5	17.7	15.2	20.9	47.8
6	15.4	13.0	17.4	44.6
7	13.6	11.4	14.8	41.3
8	12.5	10.4	13.3	39.5
9	11.5	9.5	13.0	36.2
10	10.9	9.0	12.8	34.1

**Table 5d.** Observed post-progression survival of patients with colon cancer for period 1998-2020 (N=9,340).



**Figure 5e.** Observed post-progression (distant metastasis) survival of 10,282 patients with colon cancer diagnosed between 1988 and 2020 by period of progression.

Period of progression					
	1988-1997	1998-2006	2007-2015	2016+	
	n=1,483	n=3,167	n=3,879	n=1,753	
Years	%	%	%	%	
0	100.0	100.0	100.0	100.0	
1	49.2	54.8	58.2	61.8	
2	25.9	33.1	38.5	43.7	
3	16.0	21.7	26.9	32.3	
4	11.4	16.1	20.3	25.7	
5	9.4	11.9	16.2	22.3	
6	7.7	9.6	14.2		
7	6.6	8.2	12.6		
8	5.7	7.2	11.6		
9	5.1	6.7	10.6		
10	4.6	6.2	10.1		

**Table 5f.** Observed post-progression (distant metastasis) survival of patients with colon cancer for period 1988-2020 by period of progression (N=10,282).



#### Shortcuts

MCR	Munich Cancer Registry, Germany			
NCI SEER UICC	National Cancer Institute, USA Surveillance, Epidemiology, and End Results, USA Union for International Cancer Control, Geneva			
DCO NA NOS	Death certificate only Not available Not otherwise specified	Death certificate provides the only notification to the registry.		
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 C18: Colon cancer [Internet]. 2022 [updated 2022 Apr 15; cited 2022 Jun 1]. Available from: https://www.tumorregister-muenchen.de/en/facts/surv/sC18\_E-ICD-10-C18-Colon-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.