

Munich Cancer Registry



- ▶ Baseline statistics
- ▶ Selection Matrix
- ▶ Homepage

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Germany

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

Cancer statistics: Survival

C53: Cervical cancer

Year of diagnosis	1978-1987	1988-1997	1998-2011
Patients	1,141	1,230	2,977
Diseases	1,141	1,230	2,978
Creation date	04/01/2013		
Export date	01/03/2013		
Population (females)	2.3 m		



http://www.tumorregister-muenchen.de/en/facts/surv/surv_C53__E.pdf

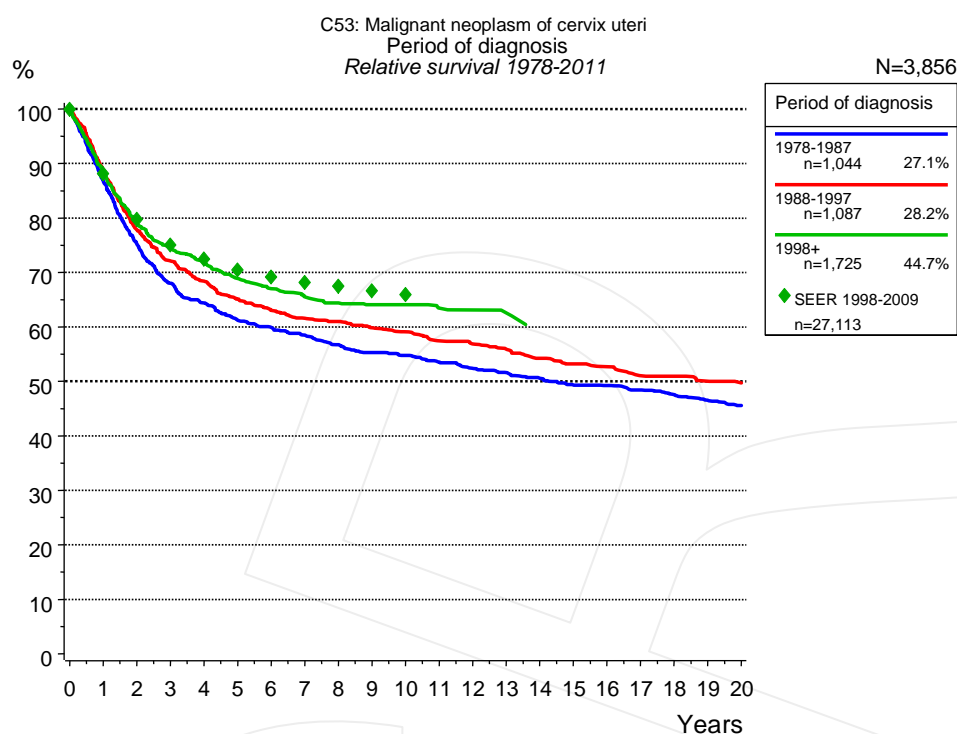


Figure 1a. Relative survival of patients with cervical cancer by period of diagnosis. Included in the evaluation are 3,856 cases diagnosed between 1978 and 2011.

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		1988-1997		1998+	
	n=1,044		n=1,087		n=1,725	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	85.1	86.6	87.3	88.7	87.2	88.3
2	72.9	75.2	75.6	77.8	77.5	79.1
3	65.0	68.0	69.1	72.1	72.4	74.4
4	60.7	64.4	64.9	68.4	69.5	71.9
5	56.9	61.2	61.0	65.1	66.1	68.9
6	55.1	59.9	58.3	63.1	63.9	67.0
7	53.0	58.5	56.4	61.6	62.1	65.5
8	50.7	56.7	55.3	61.0	60.7	64.4
9	48.7	55.3	53.6	59.9	59.8	64.0
10	47.5	54.8	52.4	59.1	59.8	64.0
11	45.8	53.6	50.4	57.5	58.3	63.4
12	44.1	52.4	49.4	56.9	57.9	63.1
13	42.8	51.6	48.1	55.9	57.1	62.5
14	41.2	50.6	46.3	54.3		
15	39.8	49.4	45.0	53.2		
16	39.1	49.2	44.0	52.7		
17	37.9	48.4	42.2	51.1		
18	36.7	47.6	42.0	51.0		
19	35.4	46.6	40.7	50.1		
20	34.1	45.5	39.6	49.7		

Table 1b. Observed (obs.) and relative (rel.) survival of patients with cervical cancer by period of diagnosis for period 1978-2011 (N=3,856).

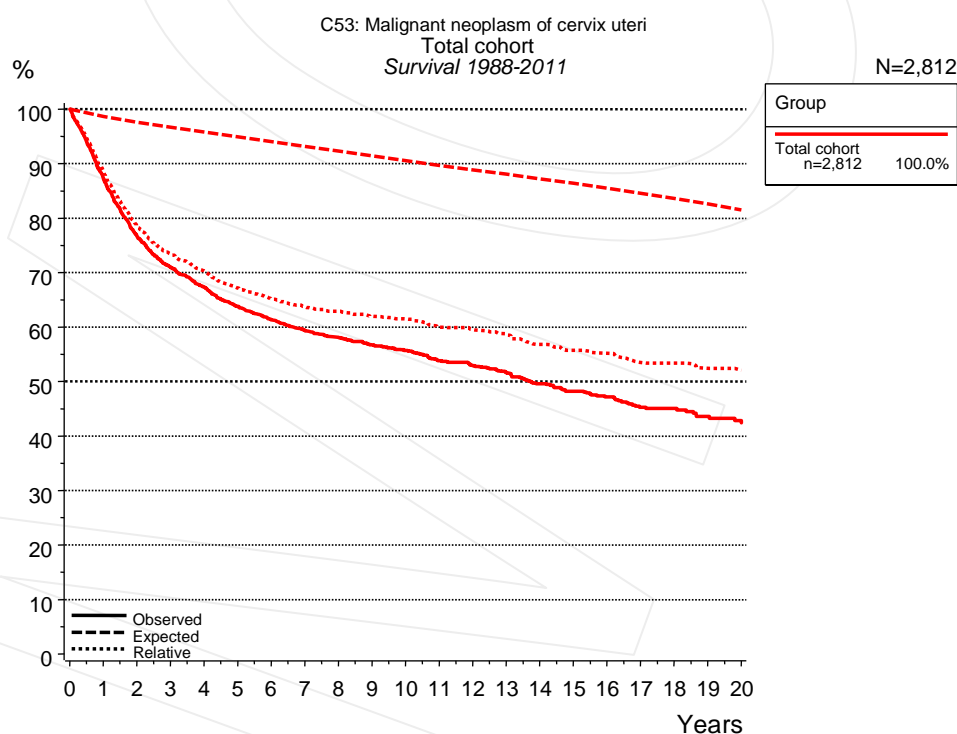


Figure 2a. Observed, expected and relative survival of the total cohort with cervical cancer. Included in the evaluation are 2,812 cases diagnosed between 1988 and 2011.

Years	Group	
	Total cohort n=2,812	
	obs. %	rel. %
0	100.0	100.0
1	87.2	88.4
2	76.7	78.6
3	71.0	73.4
4	67.4	70.4
5	63.8	67.2
6	61.3	65.2
7	59.4	63.7
8	58.2	62.9
9	56.7	62.0
10	55.7	61.5
11	53.8	60.0
12	52.9	59.5
13	51.7	58.6
14	49.6	56.8
15	48.2	55.7
16	47.2	55.2
17	45.3	53.5
18	45.1	53.4
19	43.6	52.4
20	42.4	52.1

Table 2b. Observed (obs.) and relative (rel.) survival of the total cohort with cervical cancer for period 1988-2011 (N=2,812).

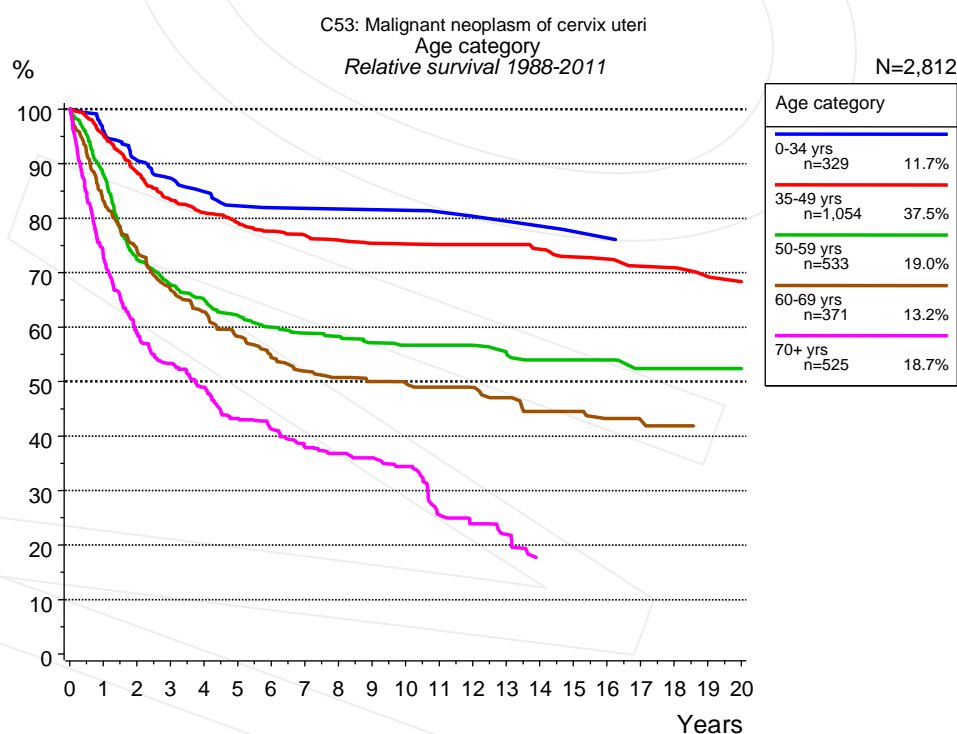


Figure 3a. Relative survival of patients with cervical cancer by age category. Included in the evaluation are 2,812 cases diagnosed between 1988 and 2011.

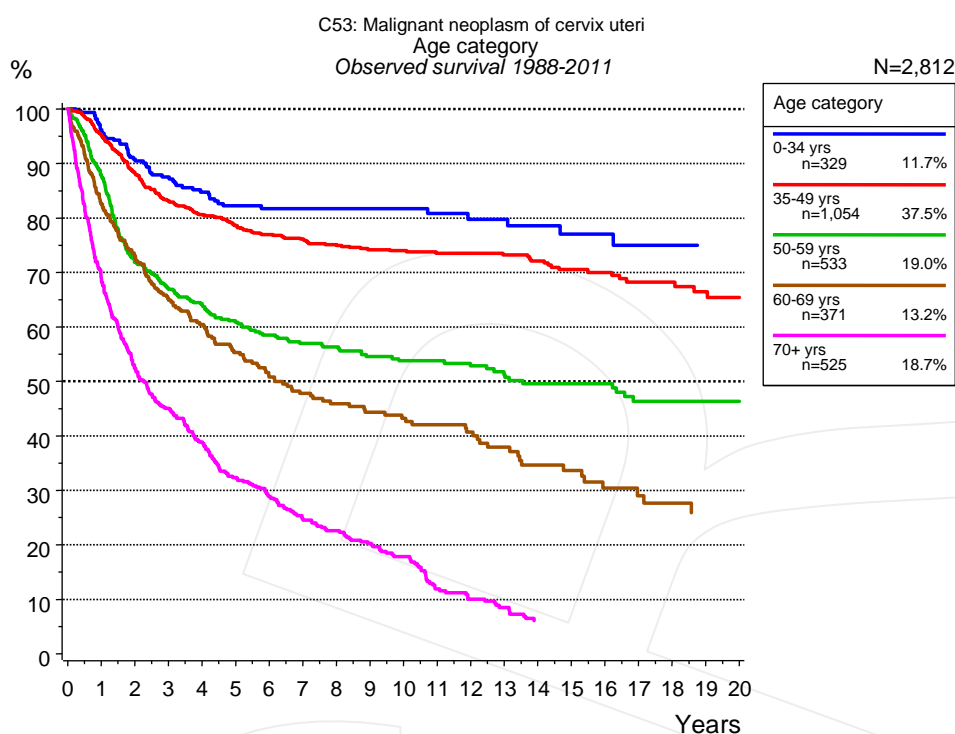


Figure 3b. Observed survival of patients with cervical cancer by age category. Included in the evaluation are 2,812 cases diagnosed between 1988 and 2011.

Years	Age category									
	0-34 yrs n=329		35-49 yrs n=1,054		50-59 yrs n=533		60-69 yrs n=371		70+ yrs n=525	
	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	96.2	96.0	95.2	95.3	87.7	88.0	82.5	83.2	68.6	72.8
2	90.8	90.6	88.3	88.5	71.9	72.4	73.0	74.1	52.4	58.8
3	87.5	87.3	83.1	83.4	66.9	67.7	64.9	66.8	45.0	53.3
4	84.8	84.8	80.6	81.0	64.2	65.1	60.4	62.8	38.9	48.9
5	82.2	82.2	78.7	79.2	60.8	62.2	55.3	58.3	32.3	43.2
6	81.7	81.9	76.9	77.6	58.5	60.0	50.8	54.4	28.8	41.3
7	81.7	81.8	76.1	76.9	57.0	58.9	47.8	51.9	24.8	37.9
8	81.7	81.7	75.1	76.0	56.3	58.3	45.9	50.8	22.6	36.8
9	81.7	81.5	74.2	75.4	54.6	57.1	44.3	50.0	20.3	36.0
10	81.7	81.4	74.0	75.2	53.8	56.7	43.2	49.7	17.8	34.4
11	80.8	81.1	73.5	75.1	53.8	56.7	42.1	49.0	11.9	25.5
12	79.8	80.3	73.5	75.1	52.9	56.7	40.7	49.0	10.1	23.9
13	79.8	79.4	73.2	75.1	51.3	55.2	37.9	47.0	8.5	21.9
14	78.6	78.5	72.1	74.3	49.6	54.0	34.7	44.5	6.1	17.6
15	77.0	77.5	70.5	72.9	49.6	54.0	33.7	44.5		
16	77.0	76.4	70.0	72.5	49.6	54.0	30.4	43.2		
17	75.0	74.8	68.2	71.2	46.3	52.4	29.0	42.9		
18	75.0	73.1	68.2	70.9	46.3	52.4	27.6	41.9		
19	75.0	71.5	66.5	69.3	46.3	52.4	25.9	41.8		
20	75.0	69.8	65.4	68.3	46.3	52.4				

Table 3c. Observed (obs.) and relative (rel.) survival of patients with cervical cancer by age category for period 1988-2011 (N=2,812).

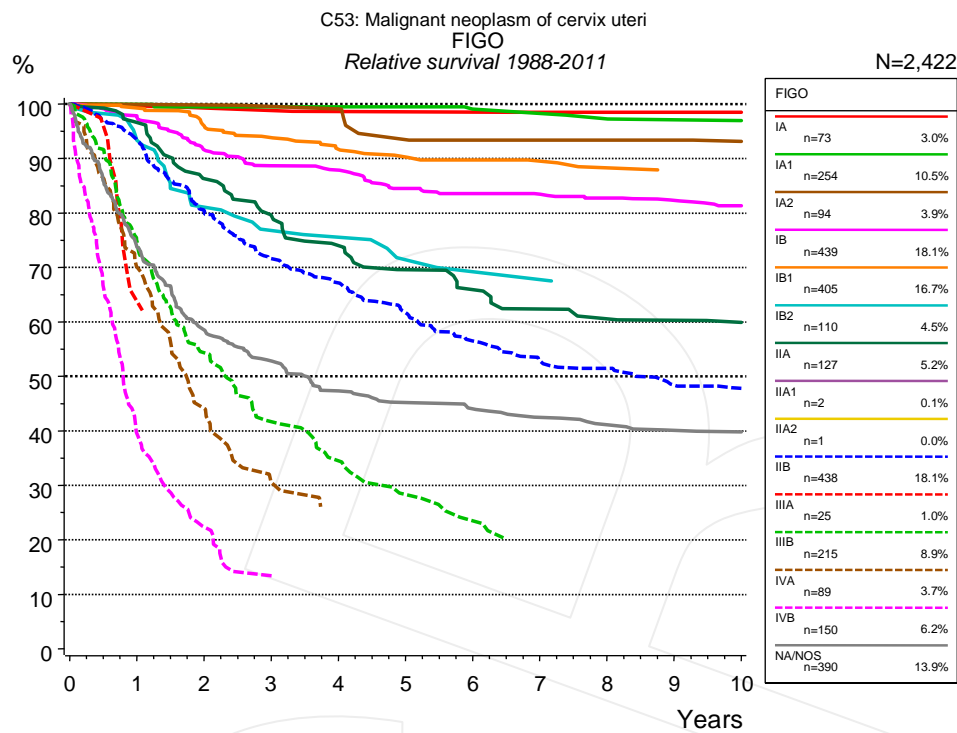


Figure 4a. Relative survival of patients with cervical cancer by FIGO. For 2,622 of 2,812 cases diagnosed between 1988 and 2011 valid data could be obtained for this item. For a total of 2,422 cases an evaluable classification was established. The grey line represents the subgroup of 390 patients with missing values regarding FIGO (13.9% of 2,812 patients, the percent values of all other categories are related to n=2,422). Subgroups with sample size <15 are dropped from the chart.

Years	FIGO													
	IA n=73		IA1 n=254		IA2 n=94		IB n=439		IB1 n=405		IB2 n=110		IIA n=127	
	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	100.0	99.6	100.0	99.9	100.0	99.9	97.0	97.8	99.2	99.3	92.4	93.3	95.2	96.6
2	98.6	99.3	99.1	99.5	100.0	99.8	90.2	91.6	95.2	95.9	80.0	81.1	83.7	86.3
3	98.6	98.8	99.1	99.5	98.7	99.6	86.6	88.6	93.0	93.8	75.0	76.8	76.0	79.6
4	97.1	98.6	99.1	99.5	98.7	99.1	85.3	87.8	90.4	91.7	73.6	75.5	69.9	74.0
5	97.1	98.6	98.5	99.5	92.7	93.5	81.3	84.5	88.8	90.2	68.6	71.4	64.4	69.6
6	97.1	98.5	97.1	99.0	91.1	93.4	79.8	83.6	87.8	89.7	66.7	69.2	60.3	65.9
7	95.5	98.5	96.3	98.3	91.1	93.4	79.2	83.4	87.1	89.5	66.7	67.8	56.1	62.3
8	95.5	98.5	95.4	97.2	91.1	93.4	77.9	82.8	85.4	88.3	63.9	64.6	53.8	60.5
9	95.5	98.5	94.5	97.1	91.1	93.4	76.8	82.3			63.9	60.9	52.6	60.3
10	95.5	98.5	94.5	97.0	88.7	93.1	75.3	81.4			63.9	57.3	51.4	59.9

<i>cont'd</i>	FIGO													
	IIA1 n=2		IIA2 n=1		IIB n=438		IIIA n=25		IIIB n=215		IVA n=89		IVB n=150	
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					91.7	93.4	64.0	63.7	73.4	74.8	68.4	70.0	39.1	39.4
2					77.9	80.4			52.6	54.3	43.2	44.1	22.0	22.3
3					68.2	71.6			39.9	41.7	28.3	30.5	13.8	13.4
4					63.1	67.2			33.0	34.5				
5					56.9	61.7			26.4	28.3				
6					51.2	56.5			21.9	23.5				
7					47.3	52.8								
8					45.5	51.5								
9					41.9	48.4								
10					40.7	47.8								

<i>cont'd</i>	FIGO NA/NOS n=390	
	obs. %	rel. %
Years		
0	100.0	100.0
1	71.9	73.8
2	56.0	58.5
3	49.9	52.8
4	44.1	47.4
5	41.5	45.2
6	39.9	44.0
7	37.9	42.5
8	36.4	41.1
9	34.9	40.1
10	34.4	39.8

Table 4b. Observed (obs.) and relative (rel.) survival of patients with cervical cancer by FIGO for period 1988-2011 (N=2,422).

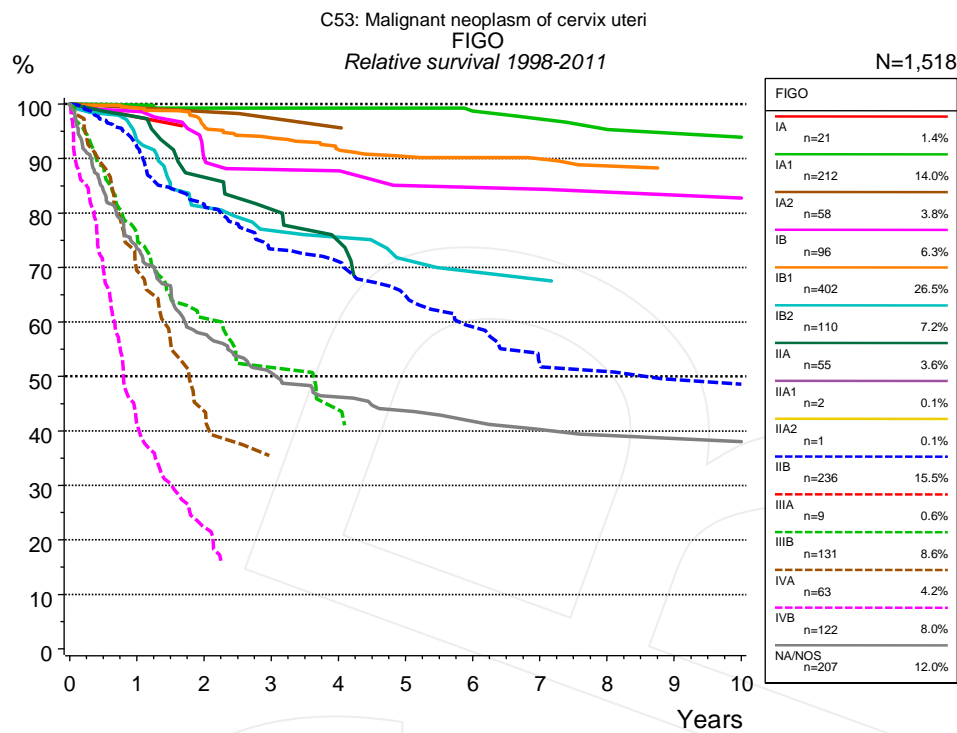


Figure 4c. Relative survival of patients with cervical cancer by FIGO. For 1,607 of 1,725 cases diagnosed between 1998 and 2011 valid data could be obtained for this item. For a total of 1,518 cases an evaluable classification was established. The grey line represents the subgroup of 207 patients with missing values regarding FIGO (12.0% of 1,725 patients, the percent values of all other categories are related to n=1,518). Subgroups with sample size <15 are dropped from the chart.

		FIGO													
		IA n=21		IA1 n=212		IA2 n=58		IB n=96		IB1 n=402		IB2 n=110		IIA n=55	
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		100.0	97.6	100.0	99.8	100.0	99.3	99.0	98.6	99.2	99.2	92.4	93.3	98.2	97.6
2				99.0	99.3	100.0	98.6	89.3	90.0	95.1	95.9	80.0	81.1	85.9	86.5
3				99.0	99.3	97.7	97.4	86.8	88.0	92.9	93.8	75.0	76.8	79.5	80.7
4				99.0	99.3	97.7	95.7	86.8	87.8	90.3	91.6	73.6	75.5	72.8	74.8
5				99.0	99.3			82.2	85.1	88.7	90.3	68.6	71.4	65.5	68.1
6				96.9	98.7			82.2	84.7	88.2	90.1	66.7	69.2	65.5	67.4
7				95.8	97.3			82.2	84.4	87.5	89.9	66.7	67.8	65.5	66.8
8				94.5	95.3			80.1	83.9	85.7	88.6	63.9	64.6		
9				92.9	94.6			80.1	83.3			63.9	60.9		
10				92.9	93.9			80.1	82.8			63.9	57.3		

<i>cont'd</i>	FIGO													
	IIA1 n=2		IIA2 n=1		IIB n=236		IIIA n=9		IIIB n=131		IVA n=63		IVB n=122	
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					90.5	92.1			75.2	76.0	67.9	69.3	40.8	41.1
2					79.7	81.6			59.3	60.7	43.4	43.6	22.0	22.3
3					70.4	73.4			50.7	51.7				
4					67.8	71.1			43.9	43.9				
5					60.8	64.8								
6					55.1	59.1								
7					48.5	52.2								
8					47.3	50.9								
9					44.4	49.4								
10					44.4	48.6								

<i>cont'd</i>	FIGO NA/NOS n=207	
	obs. %	rel. %
Years	obs. %	rel. %
0	100.0	100.0
1	71.3	73.6
2	55.3	57.8
3	48.0	50.7
4	43.1	46.2
5	40.6	43.7
6	38.2	41.8
7	36.4	40.3
8	35.3	39.1
9	35.3	38.6
10	35.3	38.0

Table 4d. Observed (obs.) and relative (rel.) survival of patients with cervical cancer by FIGO for period 1998-2011 (N=1,518).

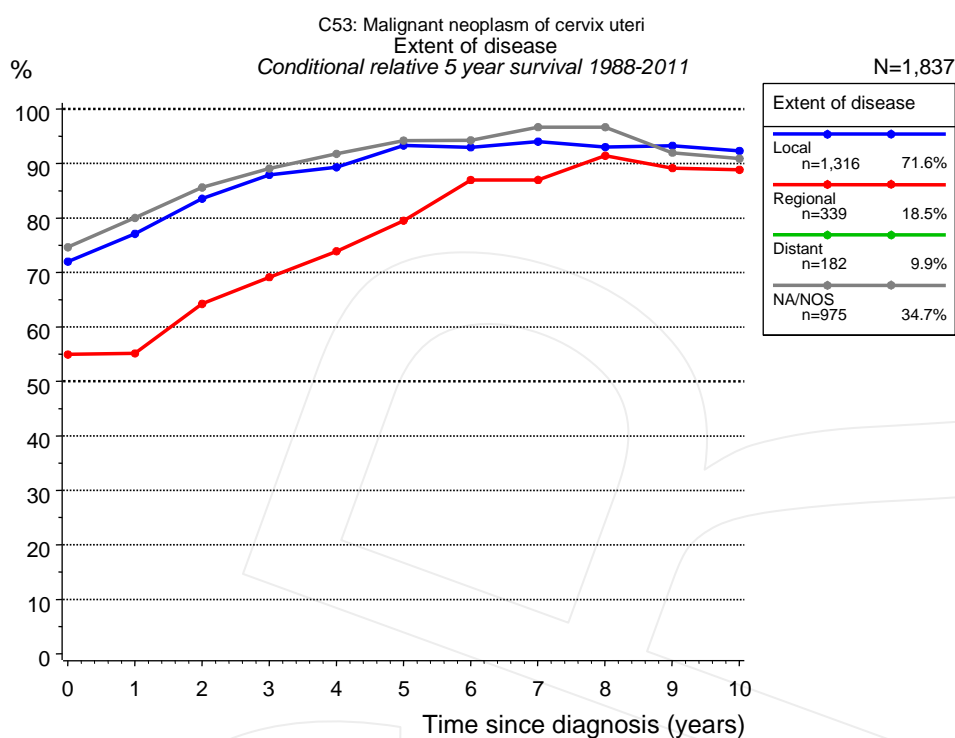


Figure 4e. Conditional relative 5-year survival of patients with cervical cancer by extent of disease. For 2,622 of 2,812 cases diagnosed between 1988 and 2011 valid data could be obtained for this item. For a total of 1,837 cases an evaluable classification was established. The grey line represents the subgroup of 975 patients with missing values regarding extent of disease (34.7% of 2,812 patients, the percent values of all other categories are related to n=1,837).

Years	Extent of disease							
	Local		Regional		Distant		NA/NOS	
	n	Cond. surv. % 5 yrs	n	Cond. surv. % 5 yrs	n	Cond. surv. % 5 yrs	n	Cond. surv. % 5 yrs
0	1,316	72.0	339	55.0	182		975	74.6
1	1,132	77.1	289	55.1			832	80.0
2	946	83.5	211	64.2			703	85.6
3	825	87.9	167	69.1			620	89.1
4	757	89.3	145	73.9			540	91.8
5	655	93.3	123	79.5			453	94.2
6	590	93.0	99	87.0			391	94.2
7	541	94.0	86	87.0			342	96.7
8	506	93.0	76	91.4			286	96.7
9	463	93.3	69	89.2			253	92.0
10	427	92.3	64	88.9			214	90.9

Table 4f. Conditional relative 5-year survival of patients with cervical cancer by extent of disease for period 1988-2011 (N=1,837).

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 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 5-year survival rate is 87.9% (n=825).

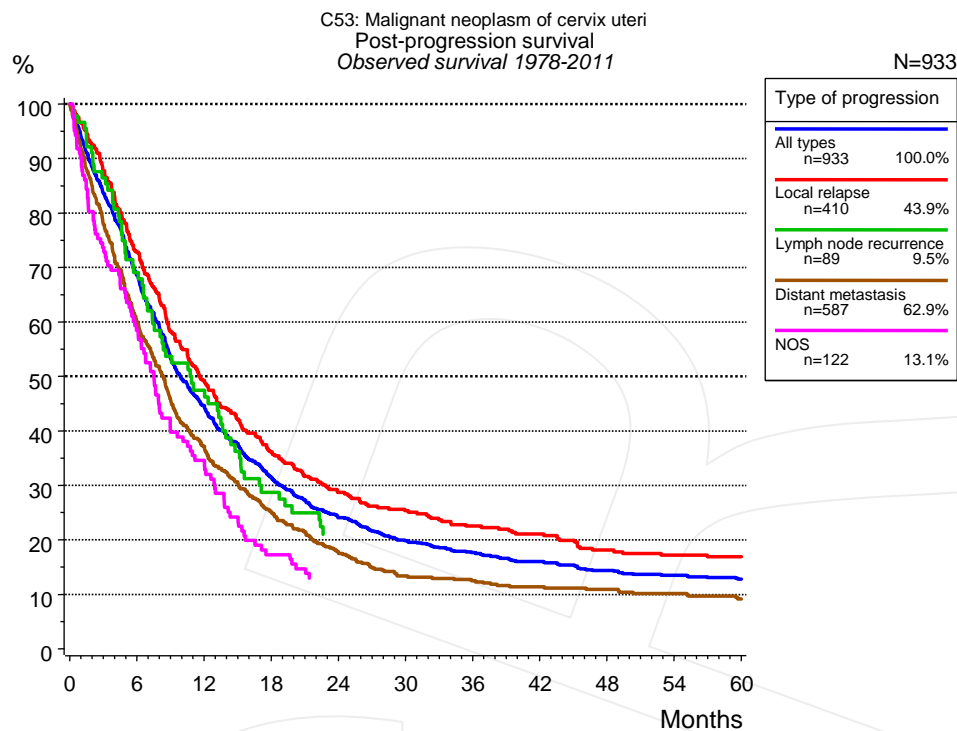


Figure 5a. Observed post-progression survival of 933 patients with cervical cancer diagnosed between 1978 and 2011 (incl. M1). These 933 patients with documented progression events during their course of disease represent 24.2% of the totally 3,856 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=216, 5.6%). 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=933 %	Local relapse n=410 %	Lymph node recurrence n=89 %	Distant metastasis n=587 %	NOS n=122 %
0	100.0	100.0	100.0	100.0	100.0
12	44.6	49.3	47.5	37.2	34.6
24	24.1	28.7		17.7	13.0
36	17.6	22.5		12.5	
48	14.4	18.1		10.9	
60	12.8	16.9		9.2	

Table 5b. Observed post-progression survival of patients with cervical cancer for period 1978-2011 (N=933).

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

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Index of figures and tables

Fig./Tbl.		Page
1a	Relative survival by period of diagnosis (chart)	2
1b	Survival by period of diagnosis (table)	3
2a	Survival of total cohort (chart)	3
2b	Survival of total cohort (table)	4
3a	Relative survival by age category (chart)	4
3b	Observed survival by age category (chart)	5
3c	Survival by age category (table)	5
4a	Relative survival by FIGO 1988+ (chart)	6
4b	Survival by FIGO 1988+ (table)	6
4c	Relative survival by FIGO 1998+ (chart)	8
4d	Survival by FIGO 1998+ (table)	8
4e	Conditional survival by extent of disease (chart)	10
4f	Conditional survival by extent of disease (table)	10
5a	Observed post-progression survival (chart)	11
5b	Observed post-progression survival (table)	11