

# Munich Cancer Registry



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## ICD-10 C83.7: Burkitt lymphoma

### Survival

Year of diagnosis	1988-1997	1998-2016
Patients	40	161
Diseases	40	161
Cases evaluated	39	148
Creation date	08/22/2018	
Export date	08/09/2018	
Population	4.81 m	



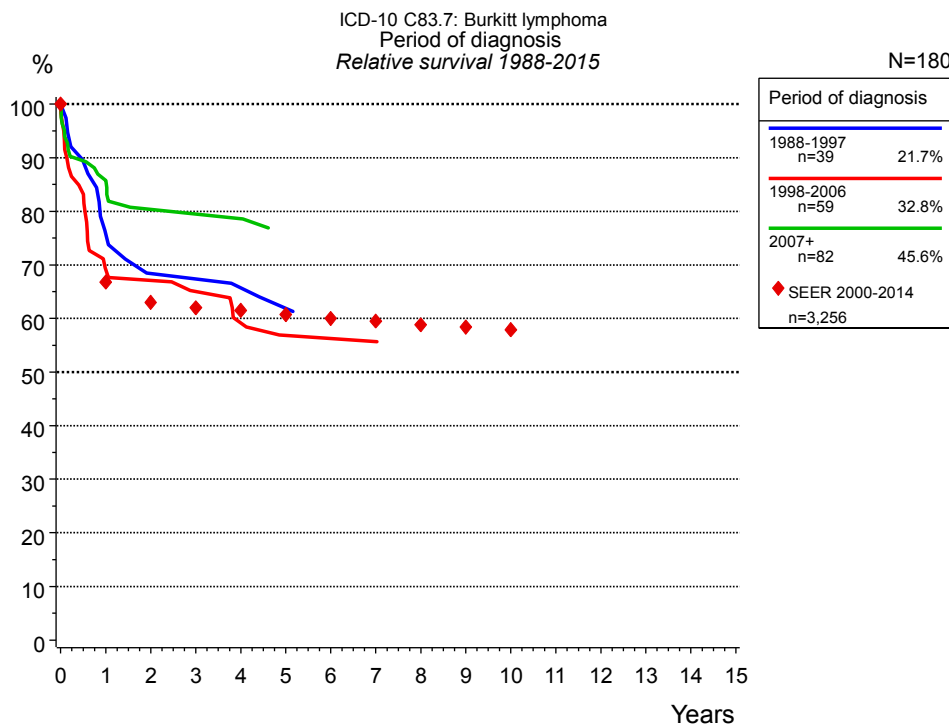
Munich Cancer Registry  
Cancer Registry Bavaria - Upper Bavaria Regional Center  
at Klinikum Grosshadern/IBE  
Marchioninstr. 15  
Munich, 81377  
Germany

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

[https://www.tumorregister-muenchen.de/en/facts/surv/sC837\\_E-ICD-10-C83.7-Burkitt-lymphoma-survival.pdf](https://www.tumorregister-muenchen.de/en/facts/surv/sC837_E-ICD-10-C83.7-Burkitt-lymphoma-survival.pdf)

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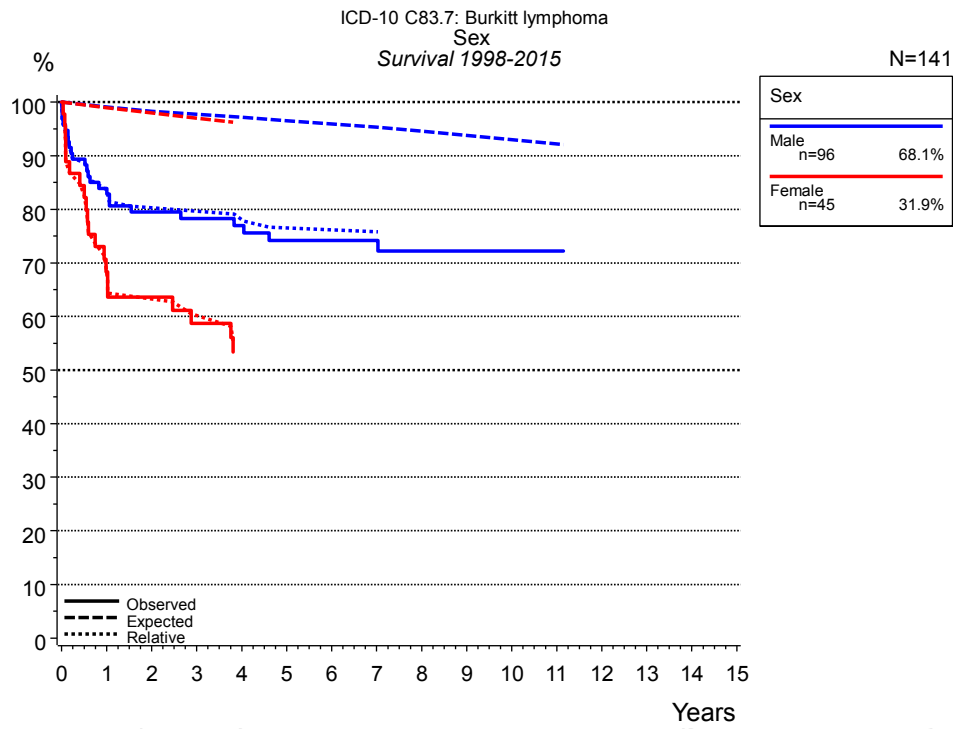
**Figure 1a.** Relative survival of patients with Burkitt lymphoma by period of diagnosis. Included in the evaluation are 180 cases diagnosed between 1988 and 2015.

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 2014, 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 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					
	1988-1997 n=39		1998-2006 n=59		2007+ n=82	
	obs. %	rel. %	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0	100.0	100.0
1	75.7	75.7	68.7	69.1	86.3	85.8
2	67.4	68.4	66.9	67.1	79.8	80.4
3	67.4	67.4	63.3	65.0	78.3	79.5
4	64.6	65.7	57.9	59.2	78.3	78.6
5	61.7	61.9	54.2	56.8		
6	58.8	60.6	54.2	56.3		
7	58.8	59.8	54.2	55.7		

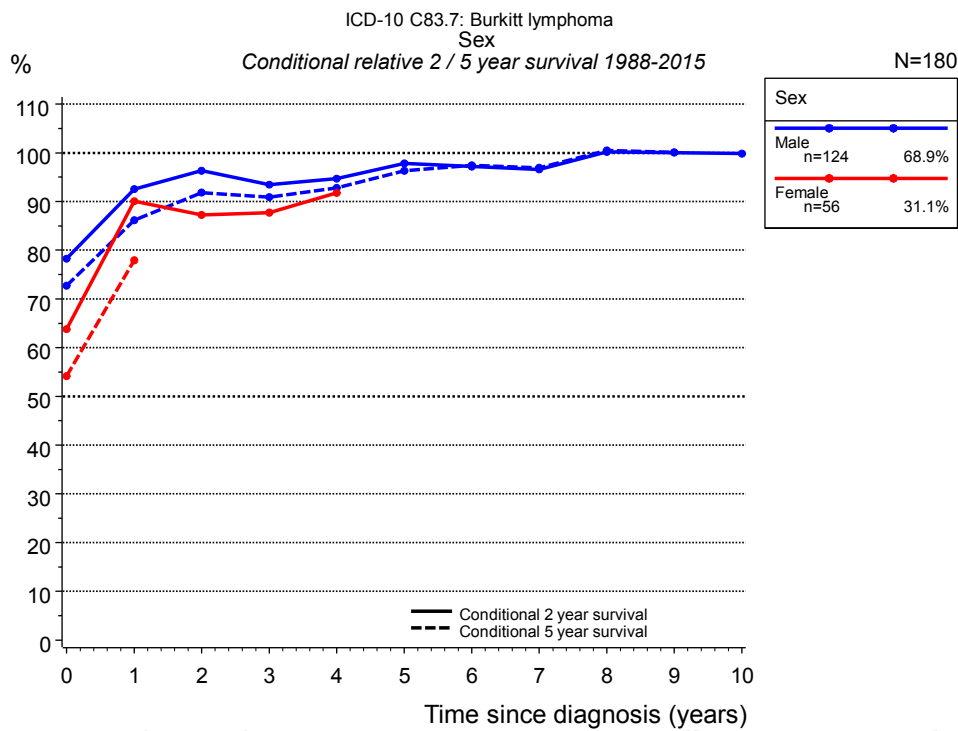
**Table 1b.** Observed (obs.) and relative (rel.) survival of patients with Burkitt lymphoma by period of diagnosis for period 1988-2015 (N=180).



**Figure 2a.** Survival of patients with Burkitt lymphoma by sex. Included in the evaluation are 141 cases diagnosed between 1998 and 2015.

Years	Sex			
	Male n=96		Female n=45	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	83.9	83.6	68.3	68.1
2	79.5	80.3	63.6	63.2
3	78.3	79.7	58.7	60.2
4	77.0	78.1	53.4	53.8
5	74.2	76.5		
6	74.2	76.1		
7	74.2	75.8		

**Table 2b.** Observed (obs.) and relative (rel.) survival of patients with Burkitt lymphoma by sex for period 1998-2015 (N=141).

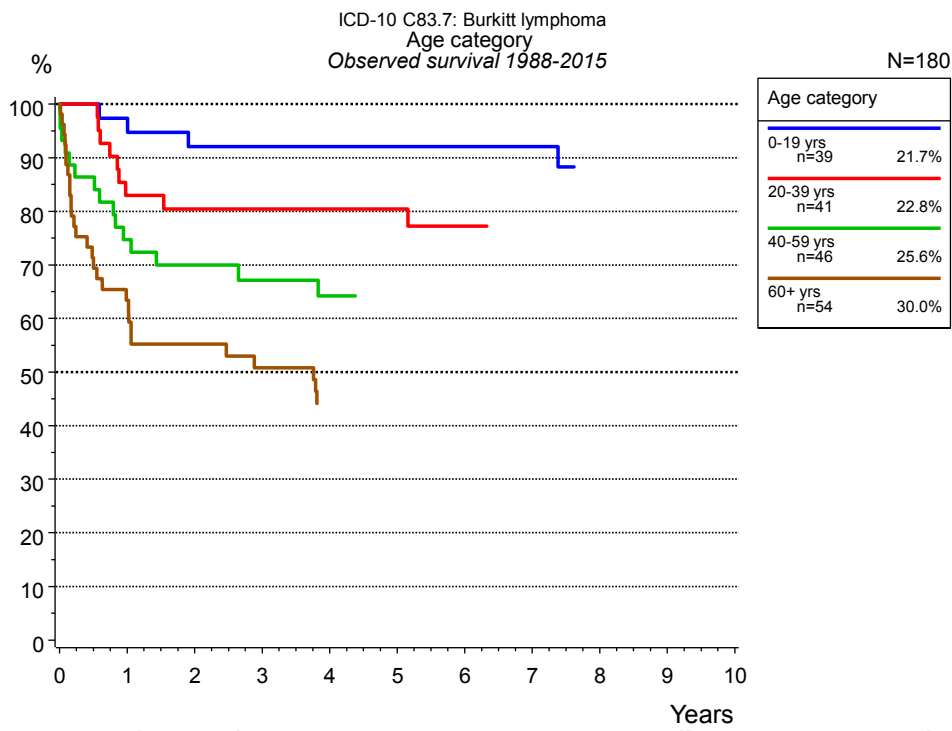


**Figure 2c.** Conditional relative 2 / 5-year survival of patients with Burkitt lymphoma by sex. For 180 of 180 cases diagnosed between 1988 and 2015 valid data could be obtained for this item.

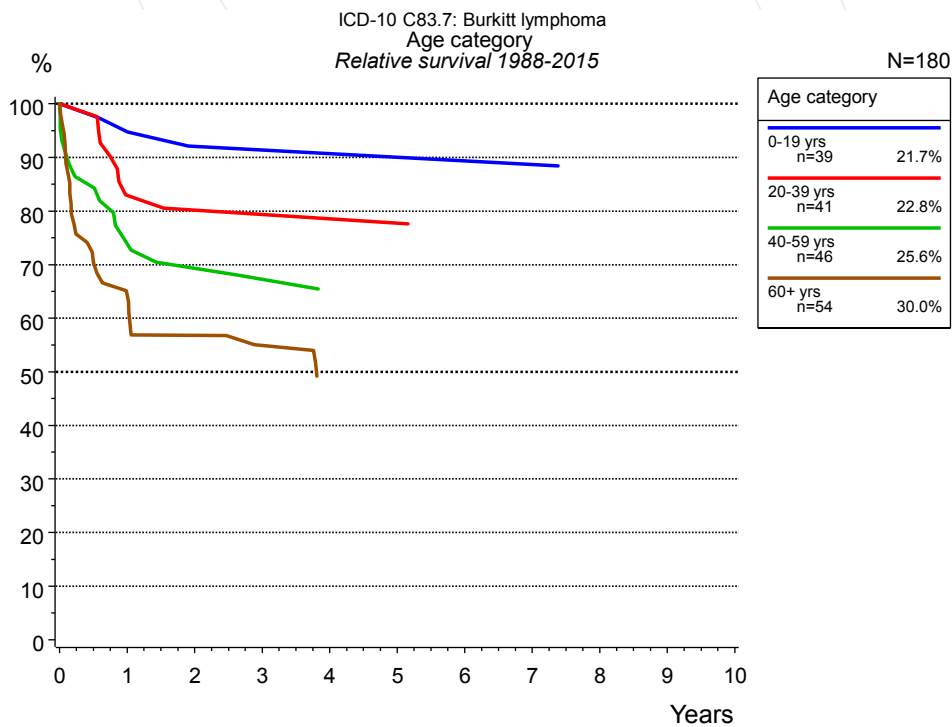
Years	Sex					
	n	Male		n	Female	
		Cond. surv. % 2 yrs	Cond. surv. % 5 yrs		Cond. surv. % 2 yrs	Cond. surv. % 5 yrs
0	124	78.3	72.7	56	63.8	54.1
1	98	92.5	86.1	36	90.1	78.0
2	86	96.3	91.8	33	87.3	
3	80	93.4	90.9	31	87.7	
4	72	94.7	92.8	27	91.7	
5	64	97.8	96.3			
6	59	97.2	97.4			
7	51	96.6	96.9			
8	42	100.2	100.5			
9	37	100.0	100.1			
10	33	99.8				

**Table 2d.** Conditional relative 2 / 5-year survival of patients with Burkitt lymphoma by sex for period 1988-2015 (N=180).

Conditional relative survival rates refer to the relative survival probability, in this case for 2 and 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 2a). 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 sex="Male", who are alive at least 3 years after cancer diagnosis, the conditional relative 2-year survival rate is 93.4% (n=80).



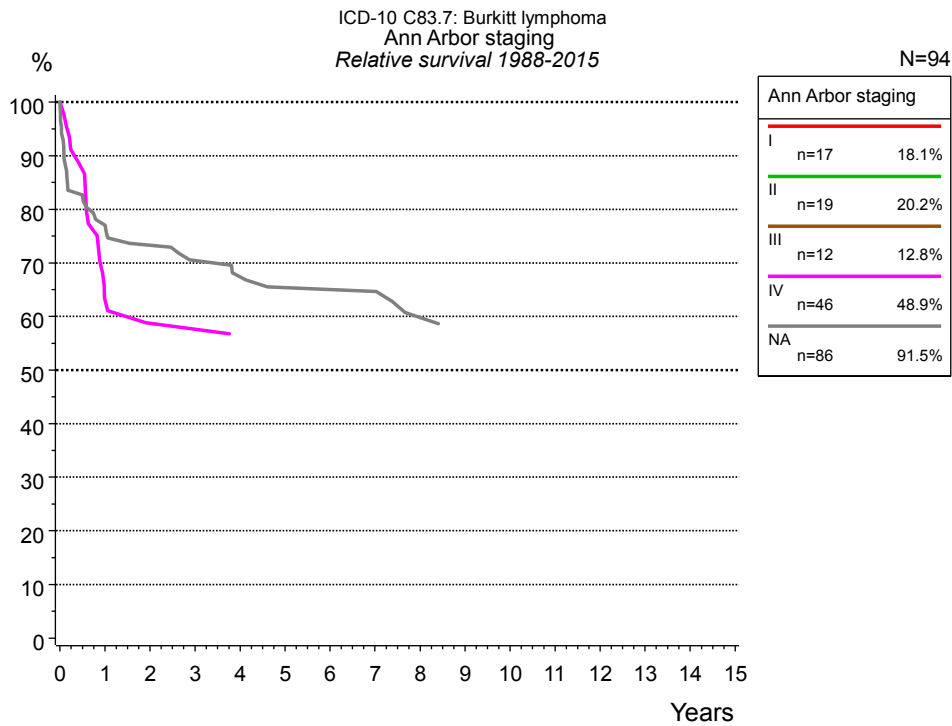
**Figure 3a.** Observed survival of patients with Burkitt lymphoma by age category. Included in the evaluation are 180 cases diagnosed between 1988 and 2015.



**Figure 3b.** Relative survival of patients with Burkitt lymphoma by age category. Included in the evaluation are 180 cases diagnosed between 1988 and 2015.

Years	Age category							
	0-19 yrs n=39		20-39 yrs n=41		40-59 yrs n=46		60+ yrs n=54	
	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	97.4	94.8	82.9	82.9	74.7	73.9	63.4	64.3
2	92.1	92.1	80.4	80.2	69.9	69.3	55.2	56.8
3	92.1	91.4	80.4	79.3	67.1	67.3	50.8	54.9
4	92.1	90.7	80.4	78.5	64.2	64.6	44.2	47.4
5	92.1	90.0	80.4	77.7				
6	92.1	89.4	77.2	76.8				
7	92.1	88.7						

**Table 3c.** Observed (obs.) and relative (rel.) survival of patients with Burkitt lymphoma by age category for period 1988-2015 (N=180).

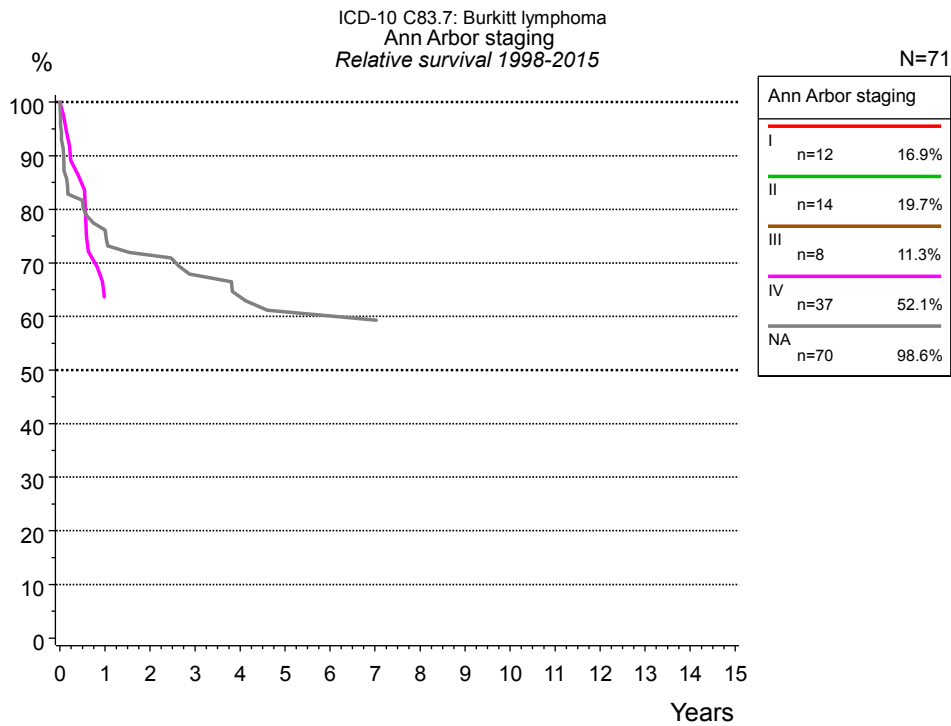


**Figure 4a.** Relative survival of patients with Burkitt lymphoma by Ann Arbor staging. For 94 of 180 cases diagnosed between 1988 and 2015 valid data could be obtained for this item. The grey line represents the subgroup of 86 patients with missing values regarding Ann Arbor staging (47.8 % of 180 patients, the percent values of all other categories are related to n=94). Subgroups with sample size <20 are omitted from the chart.

Years	Ann Arbor staging			
	IV n=46		NA n=86	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	63.0	63.0	77.4	77.1
2	58.1	58.7	72.6	73.3
3	58.1	57.6	68.8	70.4
4	55.5	54.5	66.0	67.4
5			63.1	65.4
6			63.1	65.0
7			63.1	64.6
8			57.3	59.8

**Table 4b.** Observed (obs.) and relative (rel.) survival of patients with Burkitt lymphoma by Ann Arbor staging for period 1988-2015 (N=94).

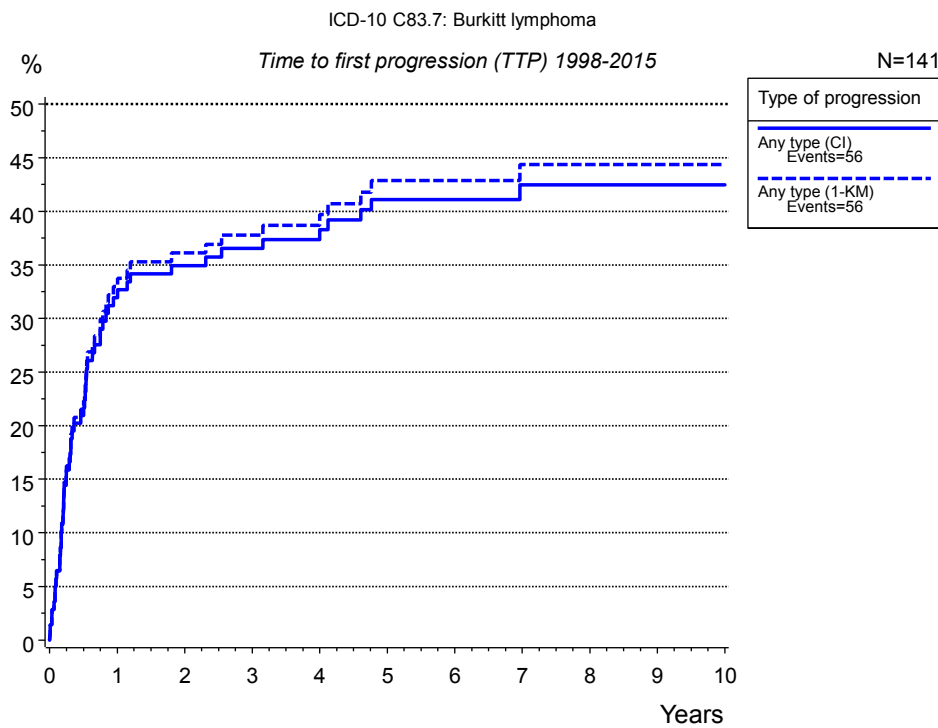




**Figure 4c.** Relative survival of patients with Burkitt lymphoma by Ann Arbor staging. For 71 of 141 cases diagnosed between 1998 and 2015 valid data could be obtained for this item. The grey line represents the subgroup of 70 patients with missing values regarding Ann Arbor staging (49.6 % of 141 patients, the percent values of all other categories are related to n=71). Subgroups with sample size <20 are omitted from the chart.

Years	Ann Arbor staging			
	IV n=37		NA n=70	
	obs. %	rel. %	obs. %	rel. %
0	100.0	100.0	100.0	100.0
1	63.1	63.6	76.9	76.2
2	63.1	62.8	71.0	71.4
3			66.3	67.7
4			62.7	63.6
5			58.9	60.9
6			58.9	60.1
7			58.9	59.3

**Table 4d.** Observed (obs.) and relative (rel.) survival of patients with Burkitt lymphoma by Ann Arbor staging for period 1998-2015 (N=71).



**Figure 5a.** Time to first progression of 141 patients with Burkitt lymphoma diagnosed between 1998 and 2015 (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.

Years	Type of progression	
	Any type (CI)	Any type (1-KM)
	n=141 %	n=141 %
0	0.0	0.0
1	31.9	33.0
2	34.9	36.1
3	36.5	37.8
4	37.4	38.7
5	41.1	42.9
6	41.1	42.9
7	42.5	44.4
8	42.5	44.4
9	42.5	44.4
10	42.5	44.4

**Table 5b.** Time to first progression of patients with Burkitt lymphoma for period 1998-2015 (N=141).

**Shortcuts**

MCR Munich Cancer Registry, Germany

NCI National Cancer Institute, USA

SEER Surveillance, Epidemiology, and End Results, USA

UICC Union for International Cancer Control, Geneva

DCO Death certificate only Death certificate provides the only notification to the registry.

NA Not available

NOS Not otherwise specified

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**

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