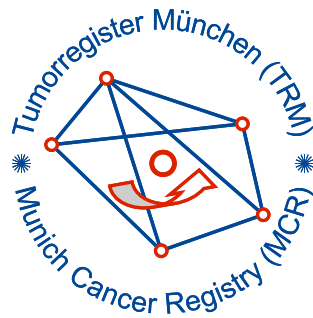


# Munich Cancer Registry



- ▶ Baseline statistics
- ▶ Selection Matrix
- ▶ Homepage
- ▶ *Deutsch*

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

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

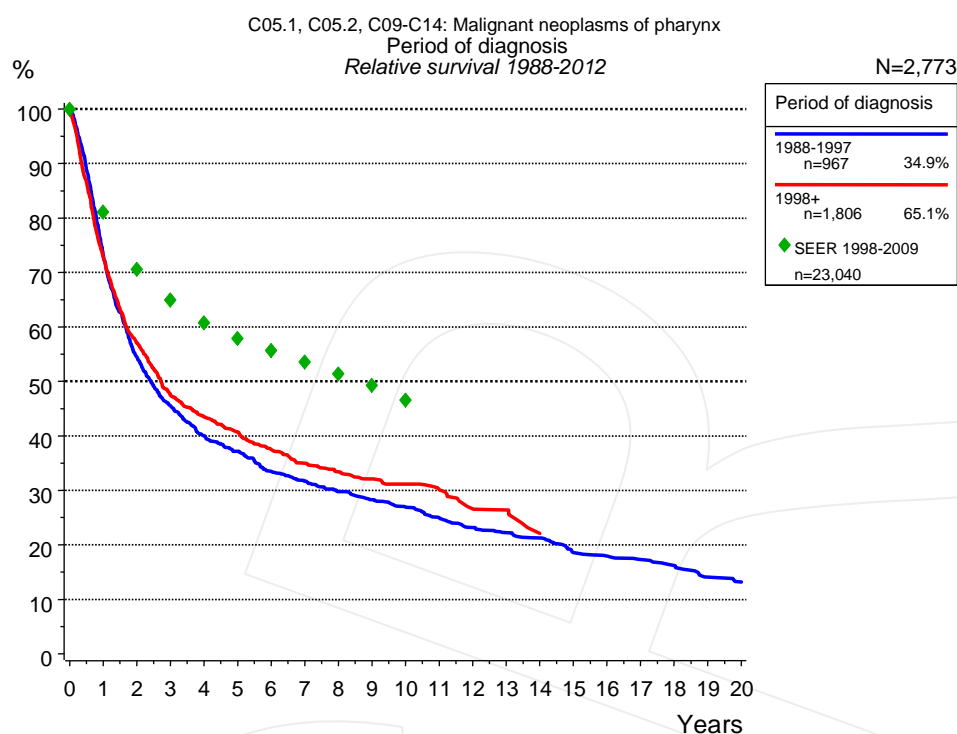
## Cancer statistics: Survival

### C05.1, C05.2, C09-C14: Pharynx cancer

|                   |            |
|-------------------|------------|
| Year of diagnosis | 1988-2012  |
| Patients          | 4,435      |
| Diseases          | 4,506      |
| Cases evaluated   | 2,773      |
| Creation date     | 03/25/2014 |
| Export date       | 02/12/2014 |
| Population        | 4.5 m      |



[http://www.tumorregister-muenchen.de/en/facts/surv/surv\\_C0914E.pdf](http://www.tumorregister-muenchen.de/en/facts/surv/surv_C0914E.pdf)

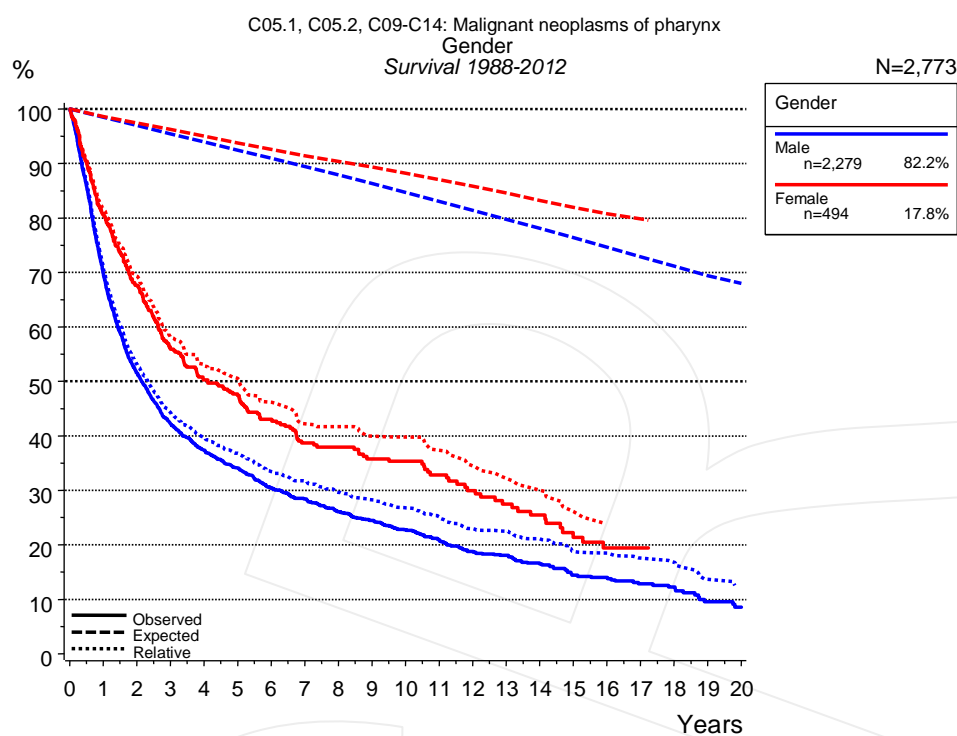


**Figure 1a.** Relative survival of patients with pharynx cancer by period of diagnosis. Included in the evaluation are 2,773 cases diagnosed between 1988 and 2012.

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 1988, 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<br>n=967  |        | 1998+<br>n=1,806 |        |
|       | obs. %              | rel. % | obs. %           | rel. % |
| 0     | 100.0               | 100.0  | 100.0            | 100.0  |
| 1     | 71.8                | 73.0   | 71.5             | 72.6   |
| 2     | 52.9                | 54.5   | 55.4             | 57.0   |
| 3     | 43.6                | 45.5   | 45.4             | 47.4   |
| 4     | 37.7                | 40.0   | 41.0             | 43.5   |
| 5     | 34.5                | 37.2   | 37.7             | 40.6   |
| 6     | 30.6                | 33.5   | 34.3             | 37.5   |
| 7     | 28.5                | 31.7   | 31.5             | 35.0   |
| 8     | 26.4                | 29.8   | 29.6             | 33.4   |
| 9     | 24.7                | 28.3   | 28.1             | 32.1   |
| 10    | 23.1                | 26.9   | 26.8             | 31.1   |
| 11    | 21.1                | 24.9   | 25.4             | 30.1   |
| 12    | 19.3                | 23.2   | 22.1             | 26.6   |
| 13    | 18.1                | 22.2   | 21.6             | 26.4   |
| 14    | 17.1                | 21.2   |                  |        |
| 15    | 14.5                | 18.5   |                  |        |
| 16    | 13.9                | 17.9   |                  |        |
| 17    | 13.0                | 17.3   |                  |        |
| 18    | 12.1                | 16.2   |                  |        |
| 19    | 10.2                | 14.0   |                  |        |
| 20    | 9.4                 | 13.2   |                  |        |

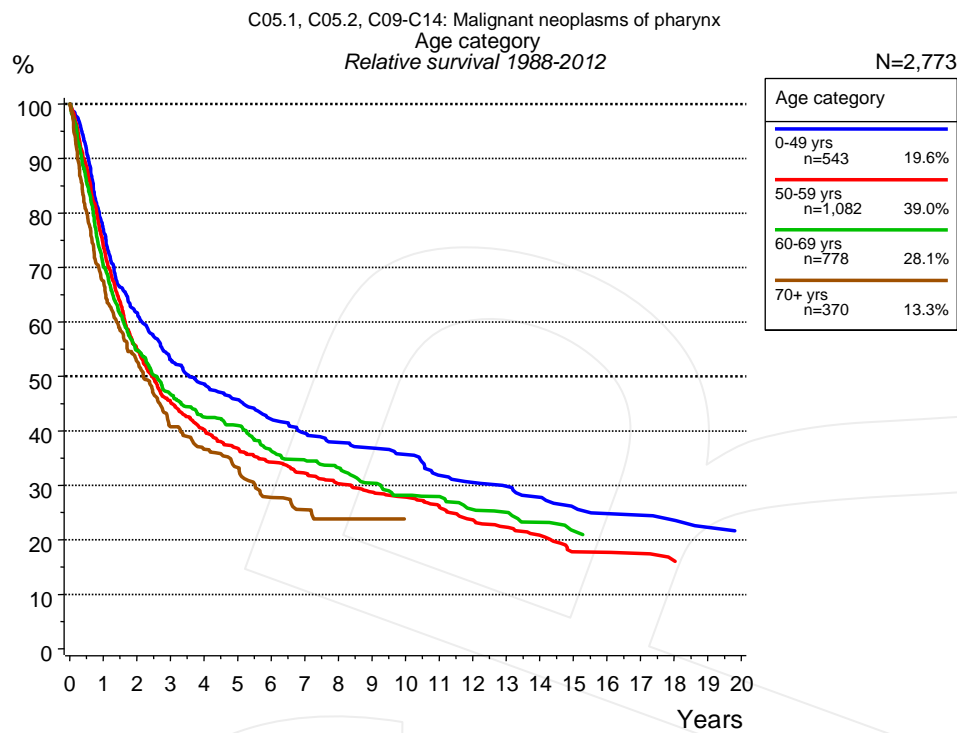
**Table 1b.** Observed (obs.) and relative (rel.) survival of patients with pharynx cancer by period of diagnosis for period 1988-2012 (N=2,773).



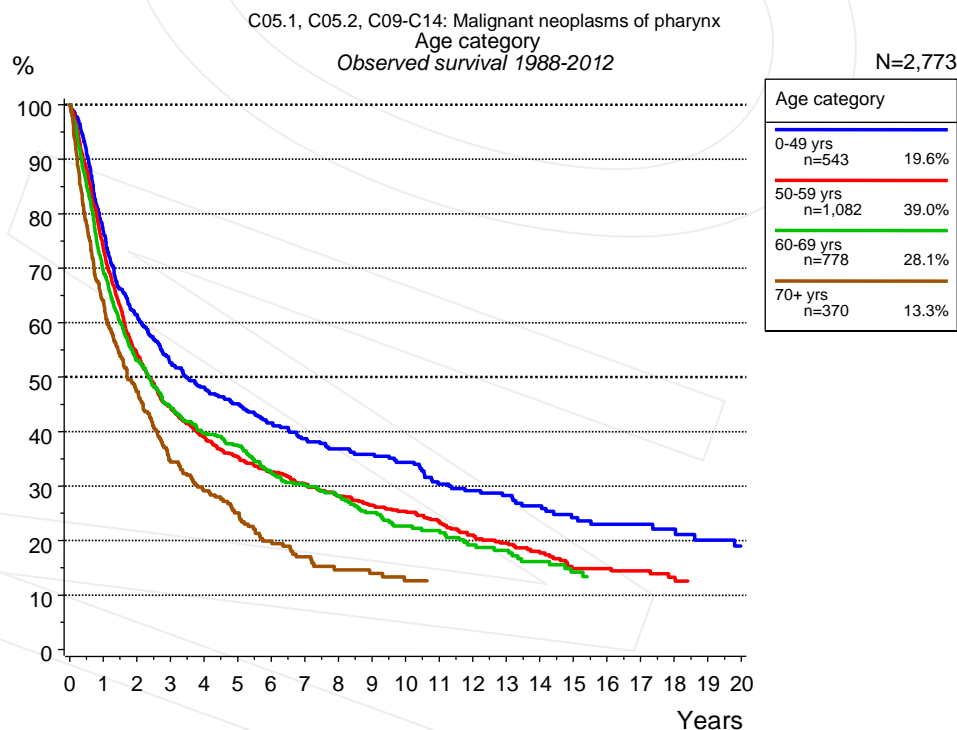
**Figure 2a.** Survival of patients with pharynx cancer by gender. Included in the evaluation are 2,773 cases diagnosed between 1988 and 2012.

| Years | Gender          |        |                 |        |
|-------|-----------------|--------|-----------------|--------|
|       | Male<br>n=2,279 |        | Female<br>n=494 |        |
|       | obs. %          | rel. % | obs. %          | rel. % |
| 0     | 100.0           | 100.0  | 100.0           | 100.0  |
| 1     | 69.6            | 70.7   | 80.7            | 81.6   |
| 2     | 51.5            | 53.1   | 67.7            | 69.3   |
| 3     | 42.3            | 44.2   | 55.9            | 58.1   |
| 4     | 37.4            | 39.7   | 50.2            | 52.8   |
| 5     | 34.0            | 36.8   | 47.4            | 50.5   |
| 6     | 30.4            | 33.4   | 43.0            | 46.2   |
| 7     | 28.4            | 31.7   | 38.7            | 42.2   |
| 8     | 26.1            | 29.6   | 37.9            | 41.7   |
| 9     | 24.5            | 28.3   | 35.8            | 39.9   |
| 10    | 22.8            | 26.8   | 35.3            | 39.8   |
| 11    | 21.0            | 25.1   | 32.8            | 37.4   |
| 12    | 18.8            | 23.0   | 30.0            | 34.4   |
| 13    | 18.1            | 22.5   | 27.5            | 32.2   |
| 14    | 16.5            | 21.1   | 25.5            | 30.0   |
| 15    | 14.4            | 18.8   | 21.4            | 26.0   |
| 16    | 14.0            | 18.5   | 19.4            | 23.9   |
| 17    | 12.9            | 17.6   | 19.4            | 23.1   |
| 18    | 12.2            | 16.8   |                 |        |
| 19    | 9.6             | 13.7   |                 |        |
| 20    | 8.6             | 12.4   |                 |        |

**Table 2b.** Observed (obs.) and relative (rel.) survival of patients with pharynx cancer by gender for period 1988-2012 (N=2,773).



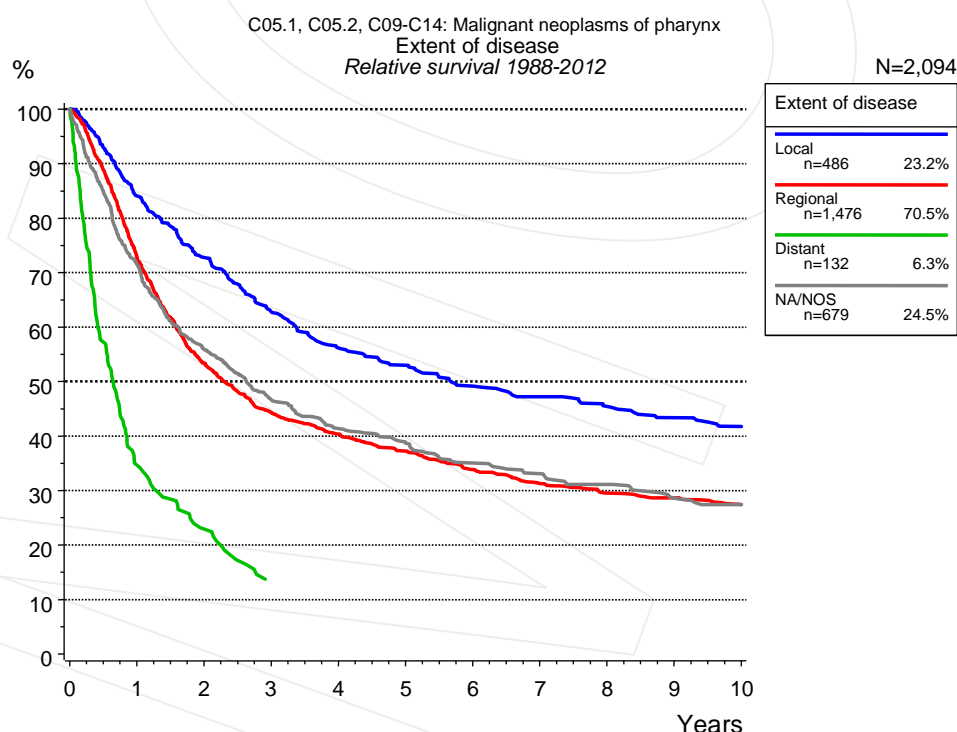
**Figure 3a.** Relative survival of patients with pharynx cancer by age category. Included in the evaluation are 2,773 cases diagnosed between 1988 and 2012.



**Figure 3b.** Observed survival of patients with pharynx cancer by age category. Included in the evaluation are 2,773 cases diagnosed between 1988 and 2012.

| Years | Age category      |        |                      |        |                    |        |                  |        |
|-------|-------------------|--------|----------------------|--------|--------------------|--------|------------------|--------|
|       | 0-49 yrs<br>n=543 |        | 50-59 yrs<br>n=1,082 |        | 60-69 yrs<br>n=778 |        | 70+ yrs<br>n=370 |        |
|       | 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     | 76.8              | 76.9   | 73.3                 | 73.9   | 69.1               | 70.3   | 64.1             | 67.5   |
| 2     | 61.4              | 61.7   | 54.3                 | 55.0   | 53.0               | 54.8   | 47.4             | 52.7   |
| 3     | 52.6              | 53.0   | 44.4                 | 45.4   | 44.5               | 46.7   | 34.4             | 40.8   |
| 4     | 48.1              | 48.6   | 39.0                 | 40.2   | 39.7               | 42.5   | 29.1             | 36.6   |
| 5     | 45.1              | 45.7   | 35.3                 | 36.8   | 37.3               | 41.0   | 25.1             | 33.3   |
| 6     | 41.6              | 42.1   | 32.6                 | 34.3   | 32.4               | 36.3   | 19.9             | 27.8   |
| 7     | 38.7              | 39.6   | 30.4                 | 32.3   | 30.1               | 34.7   | 17.0             | 25.5   |
| 8     | 36.8              | 37.9   | 28.1                 | 30.3   | 28.2               | 33.2   | 14.6             | 23.8   |
| 9     | 35.8              | 36.9   | 26.5                 | 28.7   | 25.1               | 30.4   | 14.0             | 23.8   |
| 10    | 34.4              | 35.7   | 25.4                 | 27.9   | 22.7               | 28.2   | 12.6             | 23.8   |
| 11    | 30.4              | 31.9   | 23.6                 | 26.2   | 21.9               | 28.0   |                  |        |
| 12    | 29.1              | 30.6   | 21.0                 | 23.7   | 19.2               | 25.6   |                  |        |
| 13    | 28.2              | 29.8   | 19.5                 | 22.3   | 18.2               | 25.1   |                  |        |
| 14    | 26.4              | 27.8   | 17.7                 | 20.8   | 16.2               | 23.2   |                  |        |
| 15    | 24.2              | 26.0   | 14.9                 | 17.8   | 14.2               | 21.6   |                  |        |
| 16    | 22.9              | 24.8   | 14.9                 | 17.7   |                    |        |                  |        |
| 17    | 22.9              | 24.5   | 14.4                 | 17.5   |                    |        |                  |        |
| 18    | 22.0              | 23.6   | 13.3                 | 16.1   |                    |        |                  |        |
| 19    | 20.1              | 22.3   |                      |        |                    |        |                  |        |
| 20    | 19.0              | 21.4   |                      |        |                    |        |                  |        |

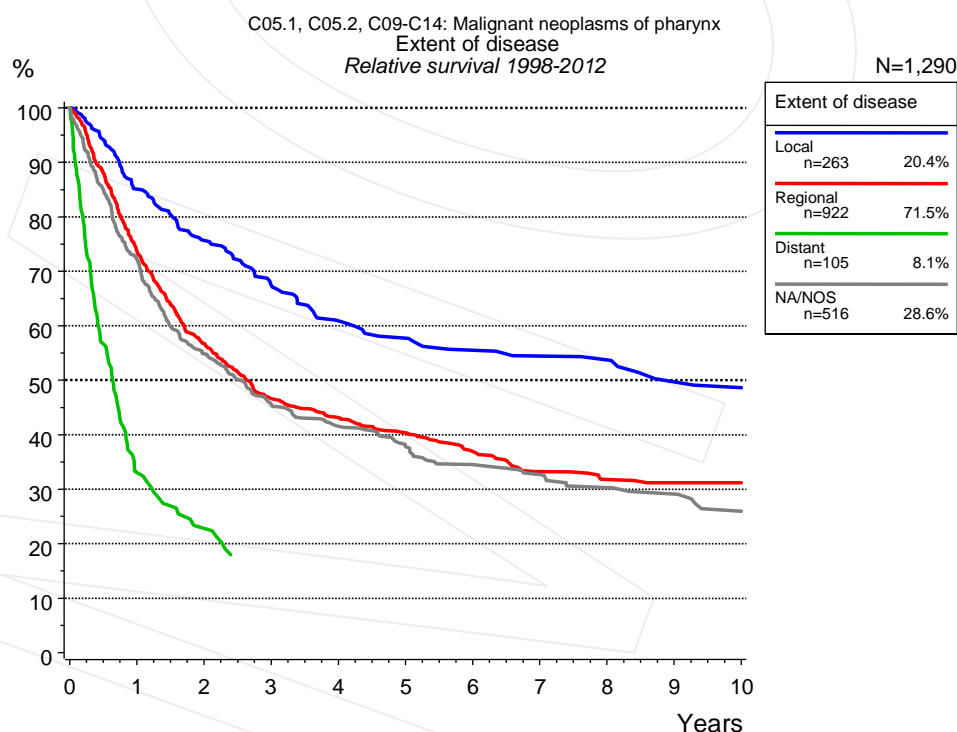
**Table 3c.** Observed (obs.) and relative (rel.) survival of patients with pharynx cancer by age category for period 1988-2012 (N=2,773).



**Figure 4a.** Relative survival of patients with pharynx cancer by extent of disease. For 2,606 of 2,773 cases diagnosed between 1988 and 2012 valid data could be obtained for this item. For a total of 2,094 cases an evaluable classification was established. The grey line represents the subgroup of 679 patients with missing values regarding extent of disease (24.5% of 2,773 patients, the percent values of all other categories are related to n=2,094).

| Years | Extent of disease |        |                     |        |                  |        |                 |        |
|-------|-------------------|--------|---------------------|--------|------------------|--------|-----------------|--------|
|       | Local<br>n=486    |        | Regional<br>n=1,476 |        | Distant<br>n=132 |        | NA/NOS<br>n=679 |        |
|       | 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     | 82.8              | 84.0   | 71.8                | 72.9   | 34.5             | 34.7   | 70.2            | 71.5   |
| 2     | 70.8              | 72.8   | 52.0                | 53.4   | 22.6             | 22.9   | 54.2            | 55.9   |
| 3     | 60.1              | 62.8   | 42.5                | 44.3   | 13.2             | 13.4   | 44.6            | 46.7   |
| 4     | 53.0              | 56.2   | 38.2                | 40.4   |                  |        | 38.8            | 41.3   |
| 5     | 49.4              | 53.0   | 34.7                | 37.2   |                  |        | 35.7            | 38.7   |
| 6     | 45.2              | 49.2   | 31.1                | 33.9   |                  |        | 31.8            | 35.0   |
| 7     | 42.7              | 47.2   | 28.2                | 31.3   |                  |        | 29.7            | 33.1   |
| 8     | 40.4              | 45.4   | 26.2                | 29.5   |                  |        | 27.5            | 31.1   |
| 9     | 38.0              | 43.3   | 25.1                | 28.6   |                  |        | 24.8            | 28.6   |
| 10    | 36.1              | 41.8   | 23.6                | 27.4   |                  |        | 23.4            | 27.4   |

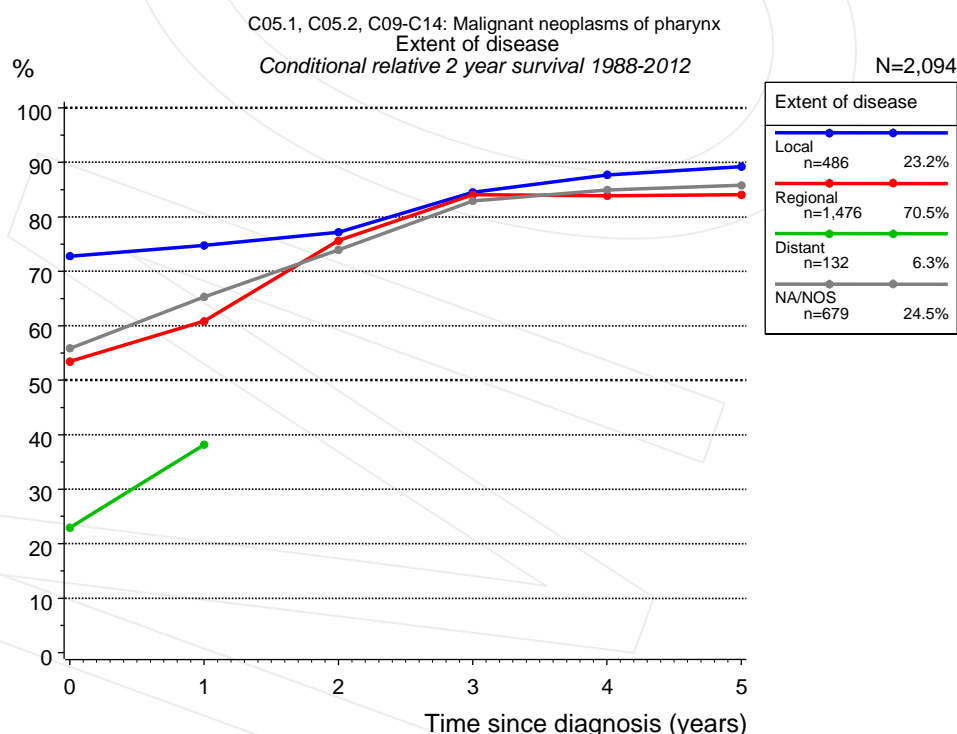
**Table 4b.** Observed (obs.) and relative (rel.) survival of patients with pharynx cancer by extent of disease for period 1988-2012 (N=2,094).



**Figure 4c.** Relative survival of patients with pharynx cancer by extent of disease. For 1,692 of 1,806 cases diagnosed between 1998 and 2012 valid data could be obtained for this item. For a total of 1,290 cases an evaluable classification was established. The grey line represents the subgroup of 516 patients with missing values regarding extent of disease (28.6% of 1,806 patients, the percent values of all other categories are related to n=1,290).

| Years | Extent of disease |        |                   |        |                  |        |                 |        |
|-------|-------------------|--------|-------------------|--------|------------------|--------|-----------------|--------|
|       | Local<br>n=263    |        | Regional<br>n=922 |        | Distant<br>n=105 |        | NA/NOS<br>n=516 |        |
|       | 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     | 83.9              | 85.1   | 72.7              | 73.7   | 32.9             | 33.0   | 70.9            | 72.2   |
| 2     | 73.4              | 75.6   | 55.2              | 56.7   | 22.7             | 22.8   | 53.2            | 54.8   |
| 3     | 64.6              | 67.4   | 44.7              | 46.6   |                  |        | 43.7            | 45.6   |
| 4     | 57.3              | 60.9   | 40.8              | 43.1   |                  |        | 39.2            | 41.6   |
| 5     | 54.0              | 57.7   | 37.6              | 40.3   |                  |        | 35.0            | 37.8   |
| 6     | 50.9              | 55.5   | 34.0              | 36.9   |                  |        | 31.4            | 34.5   |
| 7     | 49.0              | 54.4   | 30.0              | 33.2   |                  |        | 29.7            | 32.7   |
| 8     | 48.0              | 53.7   | 28.2              | 31.8   |                  |        | 27.3            | 30.3   |
| 9     | 43.6              | 49.7   | 27.4              | 31.2   |                  |        | 26.0            | 29.1   |
| 10    | 42.1              | 48.6   | 27.4              | 31.2   |                  |        | 22.8            | 25.9   |

**Table 4d.** Observed (obs.) and relative (rel.) survival of patients with pharynx cancer by extent of disease for period 1998-2012 (N=1,290).

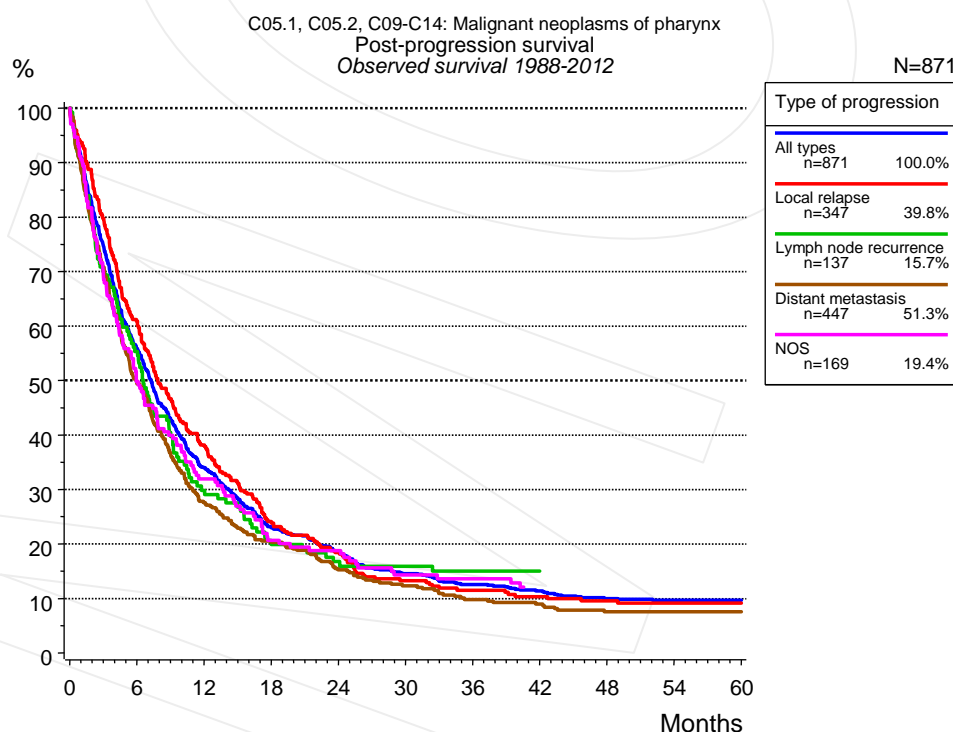


**Figure 4e.** Conditional relative 2-year survival of patients with pharynx cancer by extent of disease. For 2,606 of 2,773 cases diagnosed between 1988 and 2012 valid data could be obtained for this item. For a total of 2,094 cases an evaluable classification was established. The grey line represents the subgroup of 679 patients with missing values regarding extent of disease (24.5% of 2,773 patients, the percent values of all other categories are related to n=2,094).

| Years | Extent of disease |                        |          |                        |         |                        |        |                        |
|-------|-------------------|------------------------|----------|------------------------|---------|------------------------|--------|------------------------|
|       | Local             |                        | Regional |                        | Distant |                        | NA/NOS |                        |
|       | n                 | Cond. surv. %<br>2 yrs | n        | Cond. surv. %<br>2 yrs | n       | Cond. surv. %<br>2 yrs | n      | Cond. surv. %<br>2 yrs |
| 0     | 486               | 72.8                   | 1,476    | 53.4                   | 132     | 22.9                   | 679    | 55.9                   |
| 1     | 384               | 74.8                   | 1,004    | 60.8                   | 44      | 38.2                   | 453    | 65.3                   |
| 2     | 311               | 77.2                   | 671      | 75.6                   |         |                        | 330    | 73.9                   |
| 3     | 245               | 84.5                   | 507      | 84.0                   |         |                        | 249    | 82.9                   |
| 4     | 198               | 87.7                   | 423      | 83.9                   |         |                        | 200    | 84.9                   |
| 5     | 169               | 89.2                   | 354      | 84.0                   |         |                        | 161    | 85.8                   |

**Table 4f.** Conditional relative 2-year survival of patients with pharynx cancer by extent of disease for period 1988-2012 (N=2,094).

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 84.5% (n=245).



**Figure 5a.** Observed post-progression survival of 871 patients with pharynx cancer diagnosed between 1988 and 2012 (incl. M1). These 871 patients with documented progression events during their course of disease represent 31.4% of the totally 2,773 evaluated cases. Patients with cancer relapse documented via death certificates only were excluded (n=436, 15.7%). 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     |                             |                                     |                                  | NOS<br>n=169<br>% |
|--------|-------------------------|-----------------------------|-------------------------------------|----------------------------------|-------------------|
|        | All types<br>n=871<br>% | Local relapse<br>n=347<br>% | Lymph node recurrence<br>n=137<br>% | Distant metastasis<br>n=447<br>% |                   |
| 0      | 100.0                   | 100.0                       | 100.0                               | 100.0                            | 100.0             |
| 12     | 34.0                    | 38.2                        | 29.9                                | 27.6                             | 32.0              |
| 24     | 18.5                    | 18.4                        | 16.8                                | 15.2                             | 18.8              |
| 36     | 12.6                    | 11.5                        | 15.0                                | 9.8                              | 13.6              |
| 48     | 10.0                    | 9.5                         | 15.0                                | 7.6                              |                   |
| 60     | 9.7                     | 9.1                         |                                     | 7.6                              |                   |

**Table 5b.** Observed post-progression survival of patients with pharynx cancer for period 1988-2012 (N=871).

**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<br>Date of entry: Date of diagnosis<br>Event (Progression): First local recurrence, lymph node relapse or distant metastasis, unspecified recurrence<br>First all-cause recurrence is illustrated by survival curves (Kaplan-Meier estimate).<br>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**

Munich Cancer Registry. Survival C05.1, C05.2, C09-C14: Pharynx cancer [Internet]. 2014 [updated 2014 Mar 25; cited 2014 May 1]. Available from: [http://www.tumorregister-muenchen.de/en/facts/surv/surv\\_C0914E.pdf](http://www.tumorregister-muenchen.de/en/facts/surv/surv_C0914E.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.

### Index of figures and tables

| Fig./Tbl.   | Page |
|---|------|
| 1a Relative survival by period of diagnosis (chart)     | 2    |
| 1b Survival by period of diagnosis (table)              | 2    |
| 2a Survival by gender (chart)                           | 3    |
| 2b Survival by gender (table)                           | 3    |
| 3a Relative survival by age category (chart)            | 4    |
| 3b Observed survival by age category (chart)            | 4    |
| 3c Survival by age category (table)                     | 5    |
| 4a Relative survival by extent of disease 1988+ (chart) | 5    |
| 4b Survival by extent of disease 1988+ (table)          | 6    |
| 4c Relative survival by extent of disease 1998+ (chart) | 6    |
| 4d Survival by extent of disease 1998+ (table)          | 7    |
| 4e Conditional survival by extent of disease (chart)    | 7    |
| 4f Conditional survival by extent of disease (table)    | 8    |
| 5a Observed post-progression survival (chart)           | 8    |
| 5b Observed post-progression survival (table)           | 9    |