

# Melanoma of the Skin

15

## 15.1. INTRODUCTION AND SUMMARY

*Table 15.1. Summary of incidence and mortality statistics: melanoma of skin*

	INCIDENT CASES			DEATHS (ICD-10)		
	males	females	both sexes	males	females	both sexes
<b>All cancers (invasive, in situ and uncertain) (ICD-O-2 C44; M-8720 to M-8790)</b>						
1997 cases	228	381	609	35	33	68
% of all cancers	2.2%	3.5%	2.8%	0.9%	0.9%	0.9%
<b>Incidence and mortality rates (per 100,000 persons per year)</b>						
crude rate	12.6	20.7	16.7	1.9	1.8	1.9
World age-standardised rate	10.6	16.1		1.6	1.3	
European age-standardised rate	14.4	21.9		2.2	1.8	
cumulative risk (0-74)	1.2%	1.8%		0.2%	0.1%	
mortality/incidence ratio	0.154	0.087	0.112			
<b>Time trends (all cancers)</b>						
1994 cases	175	323	498	22	25	47
1995 cases	168	331	499	33	26	59
1996 cases	188	334	522	27	33	60
1997 cases	228	381	609	35	33	68
1994-1997 average	190	342	532	29	29	59
annual % change 1994-97	+8.1%	+5.0%	+6.4%	+13.3%	+10.7%	+11.8%
95% confidence limits of trend	(0.2%; 16.7%)	(0.8%; 9.4%)	(1.4%; 11.6%)	(-2.4%; 31.5%)	(2.7%; 19.2%)	(6.5%; 17.3%)
<b>Invasive cancers only (ICD-10 C43)</b>						
1997 cases	167	239	406	35	33	68
% of all invasive cancers	1.7%	2.7%	2.2%	0.9%	0.9%	0.9%
<b>Incidence and mortality rates (per 100,000 persons per year)</b>						
crude rate	9.2	13.0	11.1	1.9	1.8	1.9
World age-standardised rate	7.9	10.0		1.6	1.3	
European age-standardised rate	10.5	13.5		2.2	1.8	
cumulative risk (0-74)	0.9%	1.1%		0.2%	0.1%	
mortality/incidence ratio	0.210	0.138	0.167			

Melanomas of skin were much less frequent than non-melanoma skin cancers. The incidence rate in women was 65% higher than in men (Table 15.1). The incidence for both men and women has increased sharply since 1994, by 8% in men (although with very wide confidence limits) and 5% in women.

Overall survival, including in situ cancers, was 86% in men and 92% in women, while for invasive cancers only it was 81% and 87% respectively.

In addition to the skin melanomas described in this chapter, a small number of melanomas was registered with a non-cutaneous primary site (Table 15.2). Most of these were ocular in origin.

**Table 15.2. Primary sites of melanoma**

	MALES		FEMALES		BOTH SEXES	
	cases	% of total	cases	% of total	cases	% of total
skin	228	90.8%	381	92.9%	609	92.1%
eye	16	6.4%	17	4.1%	33	5.0%
unknown primary site	4	1.6%	4	1.0%	8	1.2%
urogenital	1	0.4%	7	1.7%	8	1.2%
oropharyngeal	2	0.8%	1	0.2%	3	0.5%
<b>all sites</b>	<b>251</b>		<b>410</b>		<b>661</b>	

## 15.2. AGE AND SEX PROFILE

**Table 15.3. Annual average number of cases, age-specific incidence rate and relative age-specific rate for melanoma skin cancers, 1994 to 1997**

	MALES			FEMALES		
	annual average number of cases	cases per 100,000	relative rate	annual average number of cases	cases per 100,000	relative rate
0-4	0	0	0.0	0	0	0.0
5-9	0	0	0.0	0	0	0.5
10-14	1	0	1.8	1	1	1.6
15-19	1	1	1.8	3	2	1.9
20-24	3	2	3.7	10	7	2.4
25-29	6	5	4.9	11	9	1.4
30-34	8	6	4.8	12	9	1.1
35-39	7	5	2.7	19	15	1.5
40-44	12	10	2.9	23	19	1.5
45-49	13	11	2.1	27	24	1.4
50-54	15	16	1.4	34	37	1.4
55-59	16	20	1.1	30	39	1.1
60-64	21	30	0.9	34	49	1.1
65-69	22	37	0.8	37	55	0.9
70-74	25	49	0.7	32	52	0.7
75-79	23	64	0.8	36	73	0.8
80-84	11	53	0.5	22	65	0.6
>85	8	77	0.7	14	57	0.5
<b>all ages</b>	<b>190</b>	<b>10.6</b>	<b>1.0</b>	<b>342</b>	<b>18.8</b>	<b>1.0</b>

The largest number of melanomas in men was in the 70 to 74 year age group and in women in the 65 to 69 year age group. The highest relative rate for men was in those aged 25 to 29 and for women in those aged 20 to 24.

## 15.3 SUBSITES

**Table 15.4. Subsites of skin melanoma**

	MALES		FEMALES	
	cases	% of total	cases	% of total
lip	0	0.0%	4	1.0%
eyelid	2	0.9%	10	2.6%
external ear	19	8.3%	1	0.3%
other parts of face	73	32.0%	127	33.3%
scalp and neck	29	12.7%	7	1.8%
trunk	50	21.9%	22	5.8%
upper limb	26	11.4%	75	19.7%
lower limb	23	10.1%	131	34.4%
skin, NOS	6	2.6%	4	1.0%
<b>all cancers</b>	<b>228</b>		<b>381</b>	

The distribution of melanoma (Table 15.4) was similar to that of non-melanoma skin cancer (Table 6.3), although lesions on the trunk in men formed a higher proportion of melanoma than of non-melanoma skin cancer. The commonest cutaneous site for both sexes was the face (39%). Men had more melanomas on the ear and trunk, and women had more on the legs and arms.

## 15.4. GEOGRAPHICAL VARIATION

**INTERNATIONAL**

The incidence of melanoma in Ireland was relatively high for women. It was twelfth highest in men and sixth in women (Table 15.5. This table does not include in situ lesions). This incidence was slightly higher than in Northern Ireland, although with a quite different male/female ratio. The Irish rate was higher than in England and Scotland and exceeded only by the Nordic countries.

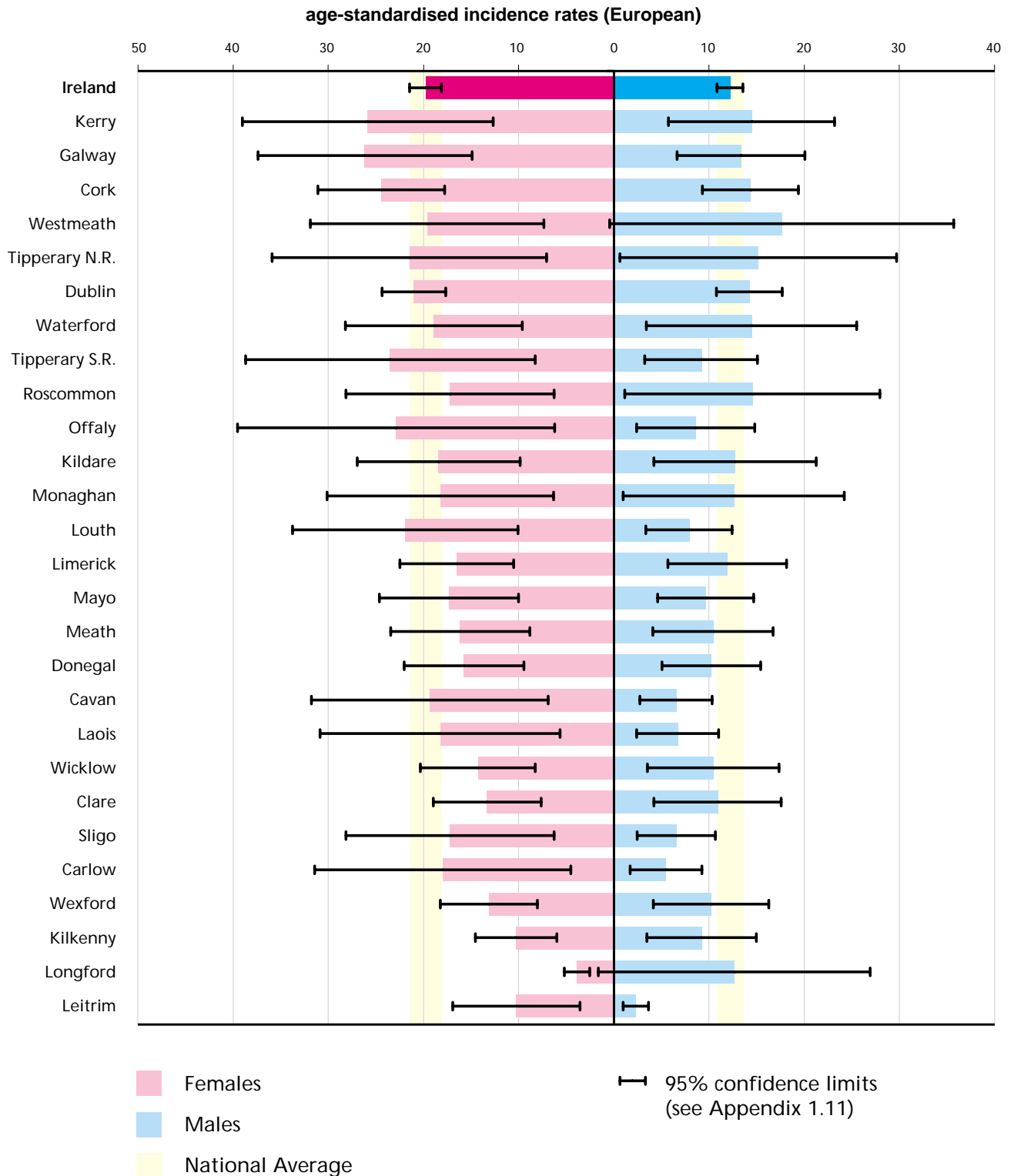
**Table 15.5. Age-adjusted annual incidence rate (European standard population) and rank of rates by country, 1995: melanoma of skin (invasive cases only)**

	MALES		FEMALES	
	age-standardised rate	rank	age-standardised rate	rank
Norway	20.8	1	21.7	1
Switzerland	19.6	2	15.5	3
Denmark	15.1	4	18.2	2
Sweden	15.4	3	14.8	4
Netherlands	10.2	7	14.4	5
<b>Ireland</b>	<b>8.9</b>	<b>12</b>	<b>13.5</b>	<b>6</b>
N. Ireland	11.3	6	11.8	9
Czech Republic	11.3	5	11.3	10
Scotland	9.4	10	13.1	7
Iceland	8.0	14	12.3	8
Finland	10.2	8	8.5	12
Austria	9.4	11	8.0	15
England	7.4	17	9.9	11
Slovenia	8.3	13	7.6	16
Estonia	7.7	16	7.5	17
France	7.0	18	8.1	14
Spain	6.7	19	8.2	13
Germany	7.7	15	6.9	19
Italy	9.7	9	3.8	20
Slovakia	6.3	20	7.1	18
Poland	3.6	21	3.4	22
Malta	2.6	23	3.7	21
Bulgaria	2.8	22	2.4	23

**NATIONAL**

The incidence of melanoma varied from 144% of expected for men in Westmeath to 19% in Leitrim and from 132% of expected for women in Galway to 19% in Longford (Figure 15.1). However, apart from the very low levels in Leitrim and Longford, the incidence rate was not significantly different from expectation in any county.

**Figure 15.1. Age-adjusted (European population) rates and 95% confidence limits by county, 1994 to 1997: melanoma**



## 15.5. BASIS OF DIAGNOSIS AND HISTOLOGICAL TYPE

**Table 15.6. Most valid basis of diagnosis**

BASIS OF DIAGNOSIS	CASES	% OF TOTAL
<b>tissue diagnosis</b>	<b>602</b>	<b>98.9%</b>
histology of primary	598	98.2%
histology of other site	4	0.7%
<b>clinical diagnosis</b>	<b>7</b>	<b>1.1%</b>
clinical	4	0.7%
other/not known	3	0.5%
<b>all cancers</b>	<b>609</b>	

Most cases were histologically verified (Table 15.6) and only 1% were clinically diagnosed.

Most melanomas were described as either "unspecified" (26%), Hutchinson's freckle/lentigo maligna (27%) or superficial spreading (20%) (Table 15.7). There was a high percentage of in situ cancers (34.6%) and this seems to be increasing with time.

**Table 15.7. Morphology**

Description	ICD-O-2 code	1997		1994-1997 AVERAGE	
		cases	% of total	cases	% of total
malignant melanoma, NOS	8720/3	156	25.6%	155	29.2%
Hutchinson's melanotic freckle, NOS	8742/2	162	26.6%	128	24.1%
superficial spreading melanoma	8743/3	123	20.2%	89	16.7%
nodular melanoma	8721/3	67	11.0%	70	13.2%
melanoma in situ	8720/2	49	8.0%	36	6.7%
melanoma malignant, in Hutchinson's melanotic freckle	8742/3	35	5.7%	32	6.1%
spindle cell melanoma, NOS	8772/3	3	0.5%	6	1.0%
acral lentiginous melanoma, malignant	8744/3	2	0.3%	5	0.9%
amelanotic melanoma	8730/3	4	0.7%	3	0.5%
melanoma malignant, in junctional nevus	8740/3	3	0.5%	3	0.5%
epithelioid cell melanoma	8771/3	2	0.3%	2	0.4%
desmoplastic melanoma, malignant	8745/3	0	0.0%	2	0.3%
epithelioid and spindle cell melanoma, mixed	8770/3	1	0.2%	1	0.1%
melanoma malignant, regressing	8723/3	1	0.2%	1	0.1%
melanoma malignant, in giant pigmented nevus	8761/3	0	0.0%	0	0.0%
balloon cell melanoma	8722/3	0	0.0%	0	0.0%
all other types		1	0.2%	0	0.0%
<b>Behaviour</b>					
in situ		211	34.6%	164	30.8%
invasive		398	65.4%	368	69.2%
<b>all cancers</b>		<b>609</b>		<b>532</b>	

## 15.6. STAGE

Table 15.8. Summary stage

stage	1997		1994-1997 AVERAGE	
	cases	% of total	cases	% of total
0	211	34.6%	164	30.8%
1	30	4.9%	42	7.9%
2	20	3.3%	30	5.6%
3	3	0.5%	3	0.6%
4	13	2.1%	12	2.3%
not staged	332	54.5%	282	53.0%
<b>all stages</b>	<b>609</b>		<b>532</b>	

46% of melanomas were staged (Table 15.8). Apart from in situ lesions (35% of the total) the most frequent stage was stage I (30 cases; 4.9%).

Table 15.10. TNM stage

T stage	N stage	M0		M1		NOT STAGED	
		cases	% of total	cases	% of total	cases	% of total
Tis/Ta	N0	211	34.6%	0	0.0%	0	0.0%
T1	N0	15	2.5%	0	0.0%	9	1.5%
	N1	0	0.0%	0	0.0%	0	0.0%
	N2	0	0.0%	0	0.0%	0	0.0%
	N3	0	0.0%	0	0.0%	0	0.0%
	not staged	4	0.7%	1	0.2%	50	8.2%
T2	N0	15	2.5%	0	0.0%	9	1.5%
	N1	0	0.0%	1	0.2%	1	0.2%
	N2	0	0.0%	0	0.0%	1	0.2%
	N3	0	0.0%	0	0.0%	0	0.0%
	not staged	2	0.3%	0	0.0%	60	9.9%
T3	N0	18	3.0%	1	0.2%	15	2.5%
	N1	0	0.0%	0	0.0%	2	0.3%
	N2	1	0.2%	2	0.3%	0	0.0%
	N3	0	0.0%	0	0.0%	0	0.0%
	not staged	7	1.1%	2	0.3%	70	11.5%
T4	N0	2	0.3%	0	0.0%	3	0.5%
	N1	1	0.2%	0	0.0%	3	0.5%
	N2	1	0.2%	2	0.3%	5	0.8%
	N3	0	0.0%	0	0.0%	0	0.0%
	not staged	3	0.5%	0	0.0%	29	4.8%
not staged	N0	1	0.2%	0	0.0%	2	0.3%
	N1	0	0.0%	0	0.0%	0	0.0%
	N2	0	0.0%	1	0.2%	0	0.0%
	N3	0	0.0%	0	0.0%	0	0.0%
	not staged	4	0.7%	3	0.5%	52	8.5%
all T	all N	285	46.8%	13	2.1%	311	51.1%
<b>all cancers</b>		<b>609</b>					

Table 15.9. Extent of disease

EXTENT OF DISEASE	CASES	% OF TOTAL
local	262	43.0%
regional	23	3.8%
distant	13	2.1%
not known	311	51.1%
<b>all</b>	<b>609</b>	

The extent of disease data (Table 15.9) is also dominated by the in situ cancers, but most cancers seem to be confined to the primary site at diagnosis.

Apart from in situ cancers, the commonest TNM stage was T3 N0 M0 (18 cases; 3%) (Table 15.10).

**Table 15.11. T stage and Clark's level**

T STAGE	CLARK'S LEVEL	CASES	% OF TOTAL
Tis/Ta	I	211	34.6%
T1	II	79	13.0%
T2	III	89	14.6%
T3	IV	118	19.4%
T4	V	49	8.0%
not staged		63	10.3%
<b>all cancers</b>		<b>609</b>	

A thickness and/or level of invasion was given for almost 90% of all melanomas (Table 15.11). The largest number of lesions was at level I (35%), followed by level IV (19%).

## 15.7. TREATMENT

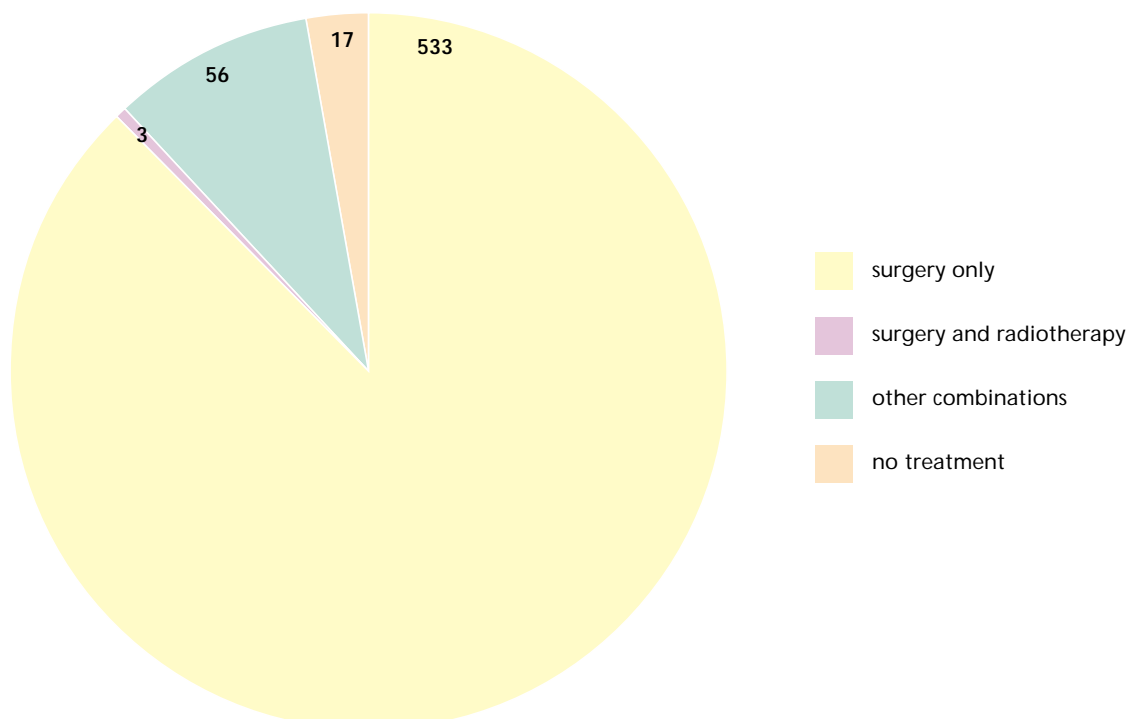
Almost all melanomas were surgically treated (Table 15.12). A small number (8%) had "other treatment", presumably immunotherapy, mainly in combination with surgery (Figure 15.2).

**Table 15.12. Treatment summary**

TREATMENT	NUMBER OF 1997 CASES TREATED	TRENDS IN % OF CASES TREATED			
		1997	1996	1995	1994
surgery	586	96.2%	93.9%	92.0%	92.2%
chemotherapy	6	1.0%	1.7%	1.0%	1.6%
hormone	1	0.2%	0.0%		
radiotherapy	7	1.1%	1.3%	1.1%	1.2%
other treatment	49	8.0%	9.4%	8.0%	7.6%
all cases treated	592	97.2%	95.0%	97.2%	95.6%
no treatment	17	2.8%	5.0%	2.8%	4.4%
<b>all cases</b>	<b>609</b>	<b>609</b>	<b>522</b>	<b>499</b>	<b>498</b>

**Figure 15.2. Frequent treatment combinations**

Note: numbers indicated refer to the number of cases treated



### 15.8. SURVIVAL

Overall survival at five years was 93%±5% for men and 96%4±% for women (Table 15.13). These figures reflect the high number of in situ and early stage lesions. Five-year relative survival for stage I cases was 104%±11% for men and 101%±7% for women, while survival for stage IV cases was unavailable for men and 28%±18% for women (Figure 15.3). A relative survival greater than 100% indicates that survival of this group was slightly better than that of the general population. This may be due, for instance, to a better socio-economic status of patients suffering from melanoma, but we have not yet investigated this.

**Table 15.13. One to five year relative survival (± 95% confidence limits) for cancers diagnosed from 1994 to 1997**

sex	stage	cases	YEARS FROM DIAGNOSIS					
			1		3		5	
			survival	95% confidence limits (±)	survival	95% confidence limits (±)	survival	95% confidence limits (±)
males	0	196	1.03	0.01	1.10	0.03	1.25	0.03
	I	58	1.01	0.03	0.94	0.11	1.04	0.11
	II	45	0.97	0.08	1.01	0.11	1.08	0.14
	III	11	0.94	0.18	0.58	0.31	0.65	0.32
	IV	31	0.27	0.16	0.14	0.12		
	X	434	0.93	0.03	0.83	0.05	0.82	0.07
	<b>all</b>	<b>775</b>	<b>0.94</b>	<b>0.02</b>	<b>0.88</b>	<b>0.03</b>	<b>0.93</b>	<b>0.05</b>
females	0	377	1.01	0.01	1.06	0.02	1.05	0.07
	I	110	1.01	0.02	1.00	0.05	1.01	0.07
	II	70	1.02	0.03	0.94	0.10	0.98	0.11
	III	8	0.93	0.24	0.55	0.37	0.60	0.37
	IV	26	0.48	0.20	0.25	0.18	0.28	0.18
	X	749	0.97	0.02	0.93	0.03	0.93	0.05
	<b>all</b>	<b>1340</b>	<b>0.98</b>	<b>0.01</b>	<b>0.95</b>	<b>0.02</b>	<b>0.96</b>	<b>0.04</b>

**Figure 15.3. Relative survival by stage for cases diagnosed from 1994 to 1997**

