

Chapter 15

Cancer of the Corpus Uteri

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INTRODUCTION

Cancer of the endometrium, the lining of the uterus, is the most common gynecologic malignancy. It is the 4th leading cancer in women (behind breast, lung and colorectal) and accounts for approximately 6% of all cancers in women (1). Uterine sarcomas are rare, comprising less than 8% of all uterine malignancies. These tumors arise primarily from two distinct tissues: 1) leiomyosarcoma from myometrial muscle and 2) mesodermal (Mullerian) and stromal sarcomas from endometrial epithelium.

MATERIALS AND METHODS

The NCI contracts with medically-oriented, nonprofit institutions located in specific geographic areas to obtain data on all cancers diagnosed in residents of the SEER geographic areas. SEER collects data on all invasive and in situ cancers except basal cell and squamous cell carcinomas of the skin (of non-genital anatomic sites) and in situ carcinomas of the uterine cervix. SEER actively follows all previously diagnosed patients on an annual basis to obtain vital status allowing the calculation of observed and relative survival rates.

This analysis is based on data from 12 SEER geographic areas which collectively cover about 14% of the total US population. The areas are the States of Connecticut, Iowa, New Mexico, Utah, and Hawaii; the metropolitan areas of Detroit, Michigan; Atlanta, Georgia; San Francisco, San Jose, and Los Angeles, California; Seattle, Washington; and 10 counties in rural Georgia. Los Angeles contributed data for diagnosis years 1992 to 2001, all other areas for 1988-2001.

Between 1988-2001, there were 57,769 cases of cancer of the corpus uteri diagnosed in SEER. Note: cancer of the corpus uteri does not include uterus, not otherwise specified (NOS). The following were excluded from the analysis: patients for whom cancer of the corpus uteri was not the first primary, cases identified through autopsy or death certificate only, persons of unknown race, alive cases with no survival time, patients less than 20 years old, cases of in situ cancers, cases without microscopic confirmation, and carcinoids. Unlike other chapters, sarcomas were included. After these exclusions, 48,642 adult cases remained for analysis (see Table 15.1).

Table 15.1: Cancer of the Corpus Uteri: Number of Cases and Exclusions by Reason, 12 SEER Areas, 1988-2001

Number Selected/Remaining	Number Excluded	Reason for Exclusion/selection
57,769	0	Select 1988-2001 diagnosis (Los Angeles for 1992-2001 only)
50,570	7,199	Select first primary only
50,453	117	Exclude death certificate only or at autopsy
50,144	309	Exclude unknown race
50,083	61	Exclude alive with no survival time
50,073	10	Exclude children (Ages 0-19)
48,877	1,196	Exclude in situ cancers
48,661	216	Exclude no or unknown microscopic confirmation
48,642	19	Exclude carcinoids

RESULTS

Age and Race

Of the 48,642 cases, 63.5% of adults with cancer of the corpus uteri were diagnosed after age 60 years and older (Table 15.2). Over 50% were between the ages of 60-79 years. Eighty-seven percent were white. Little difference exists in age distribution for white and black women, but the age distribution for women of other races was younger.

For all women, relative survival declines with age. In women 20-49 year of age, the 5-year relative survival rate is 90% compared to 87% in women 50-69 and 79% in women aged 70 and older. Survival is also lower for black women compared to white women in all age groups presented (Table 15.3). The largest survival difference was for age group 70+ where the 5-year relative survival rate was 49% for black females compared to 81% for white females.

Geographic Location

There is little variation in survival by geographic area. Five-year relative survival rates in the 12 SEER areas presented in this study ranged from 89% in Seattle to 81% in Detroit (Table 15.4).

Histology

Distribution by histology is presented in Table 15.5. Tumors classified as adenocarcinoma comprise over 90% of all cancers of the corpus uteri. Of these, the most common subclassification was adenocarcinoma, NOS, which accounted for slightly more than 53% of all adenocarcinomas registered. Endometrioid adenocarcinoma was the next most common adenocarcinoma, at 30% followed by papillary serous (3.5%), adenosquamous (2.9%), papillary (2.3%), squamous metaplasia (2.6%), mucinous (1.9%), and clear cell (1.6%).

Sarcomas and Other Specified Types comprise 7.7% of the total. Of these 34% are Mullerian, 25% leiomyosarcoma, 19% carcinosarcoma and 16% endometrial stromal sarcoma.

The 5-year relative survival rates vary greatly by histology from over 90% for adenocarcinoma, NOS, mucinous/mucin producing adenocarcinoma, and endometrioid adenocarcinoma to less than 50% for papillary serous adenocarcinoma, leiomyosarcoma, and Mullerian mixed tumor.

Staging

Uterine corpus cancer staging by the Federation Internationale de Gynecologie et d'Obstetrique (FIGO) and the American Joint Committee on Cancer (AJCC) are in the *AJCC Manual for Staging of Cancer*, 3rd edition (2):

Stage I tumor confined to the corpus uteri.

Stage IA: tumor limited to endometrium

Stage IB: tumor invades less than one half of the myometrium

Stage IC: tumor invades one half or more of the myometrium

Stage II tumor invades the cervix, but has not extended outside the uterus.

Stage III tumor extends outside of the uterus but is confined to the true pelvis.

Stage IV tumor involves the bladder or bowel mucosa or has metastasized to distant sites (including abdominal lymph nodes other than para-aortic, and/or inguinal lymph nodes; excludes metastasis to vagina, pelvic serosa, or adnexa).

Since the emphasis is on extension, a SEER modified version of stage was used in which positive lymph nodes went to N1 and Stage III but unknown lymph node involvement was ignored, i.e. treated like N0.

ADENOCARCINOMA

Stage

Table 15.6 and Figure 15.1 show the contrast across stage over time since diagnosis. In stages II-IV, the steepest declines in survival are observed within 1-3 years of diagnosis. Survival continues to decline throughout the 10 years observed for stage III.

Age and Stage

Of the 44,059 cases of adenocarcinoma, enough information to establish stage at diagnosis was available for 42,589 (96.7%). Across all age groups, 70% or more of all cancers were diagnosed in Stage I. The percent of tumors limited to the endometrium or invading less than half of the myometrium (Stages IA and IB) declines from 64% in women age 20-49 to 46% in women 70 and over. Stage IV disease rises from 5% in women age 20-49 to 9% in women 70 and over. (Table 15.7).

Across all age groups, a slight survival advantage is seen in Stage IA and IB disease compared to Stage IC. For all women, this translates to 99% 5-year survival for Stages IA & IB versus 92% for stage IC. Median survival time is over 10 years for all ages within Stage I, with the exception of women aged 70 and older diagnosed with Stage IC, where median survival time was found to be

Table 15.2: Cancer of the Corpus Uteri: Age (20+) and Race Distributions, 12 SEER Areas, 1988-2001

Age Group (Years)	Total		White		Black		Other	
	Cases	Percent	Cases	Percent	Cases	Percent	Cases	Percent
Total	48,642	100.0	42,220	100.0	3,065	100.0	3,357	100.0
20-29	218	0.4	154	0.4	25	0.8	39	1.2
30-39	1,542	3.2	1,145	2.7	146	4.8	251	7.5
40-49	5,254	10.8	4,198	9.9	309	10.1	747	22.3
50-59	10,740	22.1	9,226	21.9	576	18.8	938	27.9
60-69	13,816	28.4	12,032	28.5	1,016	33.1	768	22.9
70-79	11,972	24.6	10,792	25.6	700	22.8	480	14.3
80+	5,100	10.5	4,673	11.1	293	9.6	134	4.0

Table 15.3: Cancer of the Corpus Uteri: Number of Cases, Median Survival Time (Months) and 5-Year Survival Rates (%) by Race and Age (20+), 12 SEER Areas, 1988-2001

Race/Age	Cases	Median Survival Time (Months)	5-Year Survival Rates (%)		
			Observed	Expected	Relative
All Races, 20+	48,642	> 120	75.1	88.6	84.7
White, 20+	42,220	> 120	76.3	88.2	86.4
Black, 20+	3,065	72.1	53.2	86.1	61.8
All Races, 20-49	7,014	> 120	88.7	98.9	89.7
White, 20-49	5,497	> 120	90.0	98.9	91.0
Black, 20-49	480	> 120	76.5	97.8	78.1
All Races, 50-69	24,556	> 120	82.1	94.3	87.0
White, 50-69	21,258	> 120	83.9	94.4	88.9
Black, 50-69	1,592	99.8	57.4	90.6	63.4
All Races, 70+	17,072	89.0	59.8	76.1	78.6
White, 70+	15,465	92.2	61.3	76.0	80.6
Black, 70+	993	28.4	35.6	73.3	48.6

Table 15.4: Cancer of the Corpus Uteri: Number and Distribution of Cases and 1-, 2-, 3-, 5-, 8-, & 10-Year Relative Survival Rates (%) by SEER Geographic Area, Ages 20+, 12 SEER Areas, 1988-2001

SEER Geographic Area	Cases	Percent	Relative Survival Rate (%)					
			1-Year	2-Year	3-Year	5-Year	8-Year	10-Year
Total	48,642	100.0	93.5	89.5	87.0	84.7	83.1	82.6
Atlanta and Rural Georgia	2,646	5.4	93.1	88.3	85.4	82.9	80.1	79.6
Atlanta (Metropolitan) - 1988+	2,508	5.2	93.0	88.1	85.5	82.9	80.3	79.8
Rural Georgia - 1988+	138	0.3	95.0	91.1	84.1	81.5	76.8	72.1
California								
Los Angeles - 1992+	7,978	16.4	92.1	87.2	84.6	81.7	80.4	79.0
Greater Bay Area	8,591	17.7	93.8	89.7	87.6	85.6	83.8	83.6
San Francisco-Oakland SMSA - 1988+	5,882	12.1	93.8	89.6	87.5	85.9	83.6	83.2
San Jose-Monterey - 1988+	2,709	5.6	93.8	90.1	87.7	85.0	84.3	84.0
Connecticut - 1988+	6,198	12.7	94.6	90.8	88.7	86.5	85.2	84.2
Detroit (Metropolitan) - 1988+	6,451	13.3	91.8	86.7	83.6	81.0	79.2	78.4
Hawaii - 1988+	1,585	3.3	93.9	89.7	87.4	84.1	81.5	81.0
Iowa - 1988+	5,266	10.8	93.8	90.2	87.7	85.7	84.6	84.1
New Mexico - 1988+	1,837	3.8	94.4	91.0	87.8	85.4	82.8	82.6
Seattle (Puget Sound) - 1988+	5,860	12.0	95.4	92.6	90.6	89.2	88.1	88.1
Utah - 1988+	2,230	4.6	94.0	90.4	88.0	85.1	83.2	82.1

Table 15.5: Cancer of the Corpus Uteri: Number and Distribution of Cases and 5-Year Relative Survival Rate (%) by Histology, Ages 20+, 12 SEER Areas, 1988-2001

Histology	ICD-O Code	Cases	Percent	5-Year RSR (%)
All Values	8000-9989	48,642	100.0	84.7
Epidermoid	8051-8130	132	0.3	61.1
Adenocarcinoma	8050,8140-8147,8160-8162,8180-8221,8250-8506,8520-8550,8560,8570-8573,8940-8941	44,059	90.6	87.9
Adenocarcinoma, NOS*	8140	23,489	48.3	90.8
Papillary	80508260	1,035	2.1	70.3
Clear Cell	8310	704	1.4	64.8
With Squamous Metaplasia	8570	1,151	2.4	93.8
Mucinous & Mucin Producing	8480-8481	824	1.7	95.0
Adenosquamous	8560	1,256	2.6	74.0
Endometrioid	8380	13,258	27.3	91.2
Papillary Serous	8460	1,555	3.2	44.7
All Other Adenocarcinoma	8141-8147,8160-8162,8180-8221,8250-8259,8261-8309,8311-8379,8381-8459,8461-8479,8482-8506,8520-8550,8571-8573,8940-8941	787	1.6	68.5
Other Specified Carcinomas	8030-8045,8150-8155,8170-8171,8230-8248,8510-8512,8561-8562,8580-8671	24	0.0	~
Carcinoma, NOS*	8010-8022	608	1.2	58.4
Sarcomas and Other Specified Types	8680-8713,8720-8790,8800-8920,8930-8933,8950-8982,8990-8991,9000-9030,9040-9055,9060-9110,9120-9134,9141-9340,9350-9364,9380-9512,9530-9581	3,742	7.7	53.3
Leiomyosarcoma	8890-8897	939	1.9	48.2
Carcinosarcoma	8933,8980-8981	706	1.5	53.7
Endometrial Stromal	8930	610	1.3	74.6
Mullerian	8950-8951	1,264	2.6	45.3
All Other	8680-8713,8720-8790,8800-8889,8898-8920,8931-8932,8935,8952-8979,8982,8990-8991,9000-9030,9040-9055,9060-9110,9120-9134,9141-9340,9350-9364,9380-9512,-9530-9581	230	0.5	53.9
Unspecified	8000-8004	70	0.1	55.1

~ Statistic not displayed due to less than 25 cases.

* NOS: Not Otherwise Specified

Table 15.6: Adenocarcinoma of the Corpus Uteri: Number and Distribution of Cases and 1-, 2-, 3-, 5-, 8-, & 10-Year Relative Survival Rates (%) by AJCC Stage (SEER modified 3rd edition), Ages 20+, 12 SEER Areas, 1988-2001

AJCC Stage	Cases	Percent	Relative Survival Rate(%)					
			1-Year	2-Year	3-Year	5-Year	8-Year	10-Year
Total	44,059	100.0	95.2	92.1	89.9	87.9	86.4	86.0
Stage I	33,179	75.3	99.7	99.1	98.3	97.4	96.3	95.7
IA	9,528	21.6	99.9	99.8	99.5	99.3	99.0	99.0
IB	15,084	34.2	100.0	100.0	99.7	99.2	98.3	97.5
IC	4,142	9.4	99.1	97.2	95.0	91.9	88.4	86.2
I NOS*	4,425	10.0	97.8	95.8	93.8	92.1	90.5	90.2
Stage II	3,475	7.9	94.8	89.7	85.1	80.2	77.2	76.5
Stage III	2,651	6.0	87.5	75.8	68.2	59.6	53.4	50.5
Stage IV	3,284	7.5	61.5	44.4	35.8	28.6	25.3	25.3
Unknown/Unstaged	1,470	3.3	83.5	72.5	66.8	63.5	60.3	59.6

* NOS: Not Otherwise Specified

Table 15.7: Adenocarcinoma of the Corpus Uteri: Distribution by AJCC Stage (SEER modified 3rd edition) and Age (20+), 12 SEER Areas, 1988-2001

AJCC Stage	Age (Years)							
	Total		20-49		50-69		70+	
	Cases	Percent	Cases	Percent	Cases	Percent	Cases	Percent
Total	44,059	100.0	5,931	100.0	22,606	100.0	15,522	100.0
Stage I	33,179	75.3	4,604	77.6	17,679	78.2	10,896	70.2
IA	9,528	21.6	2,040	34.4	5,224	23.1	2,264	14.6
IB	15,084	34.2	1,723	29.1	8,500	37.6	4,861	31.3
IC	4,142	9.4	193	3.3	1,789	7.9	2,160	13.9
I NOS*	4,425	10.0	648	10.9	2,166	9.6	1,611	10.4
Stage II	3,475	7.9	481	8.1	1,592	7.0	1,402	9.0
Stage III	2,651	6.0	352	5.9	1,250	5.5	1,049	6.8
Stage IV	3,284	7.5	317	5.3	1,539	6.8	1,428	9.2
Unknown/Unstaged	1,470	3.3	177	3.0	546	2.4	747	4.8

*NOS: Not Otherwise Specified

Table 15.8: Adenocarcinoma of the Corpus Uteri: Number of Cases and 5-Year Relative Survival Rates (RSR) (%) by AJCC Stage (SEER modified 3rd edition) and Age (20+), 12 SEER Areas, 1988-2001

AJCC Stage	Total			20-49			50-69			70+		
	Cases	5-Year RSR (%)	Median Survival Time (Months)	Cases	5-Year RSR (%)	Median Survival Time (Months)	Cases	5-Year RSR (%)	Median Survival Time (Months)	Cases	5-Year RSR (%)	Median Survival Time (Months)
Total	44,059	87.9	> 120	5,931	93.2	> 120	22,606	89.7	> 120	15,522	82.5	96.5
Stage I	33,179	97.4	> 120	4,604	98.2	> 120	17,679	97.2	> 120	10,896	97.8	> 120
IA	9,528	99.3	> 120	2,040	98.9	> 120	5,224	99.4	> 120	2,264	99.3	> 120
IB	15,084	99.2	> 120	1,723	98.1	> 120	8,500	98.2	> 120	4,861	100.0	> 120
IC	4,142	91.9	> 120	193	94.8	> 120	1,789	90.4	> 120	2,160	93.3	107.4
I NOS	4,425	92.1	> 120	648	97.4	> 120	2,166	93.8	> 120	1,611	86.6	102.4
Stage II	3,475	80.2	> 120	481	91.1	> 120	1,592	84.1	> 120	1,402	70.3	64.7
Stage III	2,651	59.6	66.6	352	76.0	> 120	1,250	65.3	102.3	1,049	45.5	32.9
Stage IV	3,284	28.6	17.8	317	46.0	42.4	1,539	31.9	21.2	1,428	19.3	12.6
Unknown/Unstaged	1,470	63.5	62.8	177	83.3	> 120	546	77.3	> 120	747	42.2	23.3

Figure 15.1: Adenocarcinoma of the Corpus Uteri: Relative Survival Rate (%) by AJCC Stage (SEER modified 3rd edition), Ages 20+, 12 SEER Areas, 1988-2001

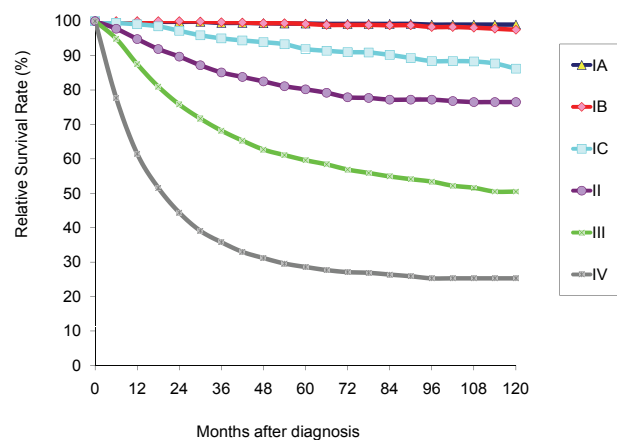
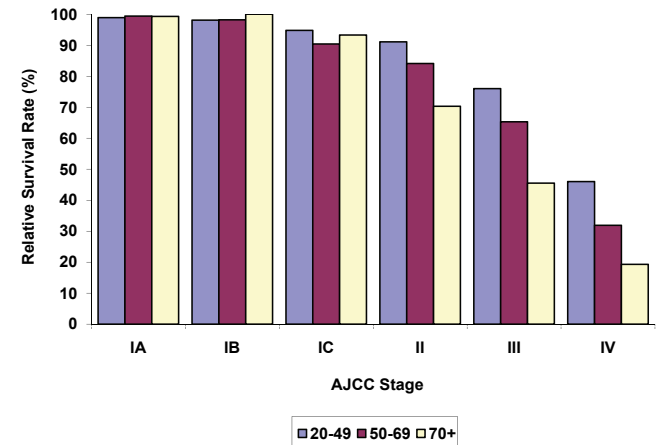


Figure 15.2: Adenocarcinoma of the Corpus Uteri: 5-Year Relative Survival Rate (%) by AJCC Stage (SEER modified 3rd edition) and Age Group (20+), 12 SEER Areas, 1988-2001



107 months. A survival differential across age exists for Stages II-IV. Women ages 20-49 diagnosed with Stage II disease experience a 5-year relative survival rate of 91%. This falls to 84% for women age 50-69 and 70% for women ages 70 and older. For Stage III, survival is 76% in women 20-49, 65% in those 50-69 and 45% for those aged 70 and over. For Stage IV, survival is 46% in women under 50, 32% in those 50-69 and 19% for those aged 70 and over (Table 15.8, Figure 15.2).

Subtype and Stage

Survival by subtype and stage is presented in Table 15.9 and Figure 15.3. A survival disadvantage is seen in tumors of the papillary serous subtype across all stages. These tumors are histologically similar to those found in the ovary. Similar but smaller differentials are observed for clear cell and papillary subtypes. Adenosquamous may have a slight survival disadvantage in Stage I. This may be due to more of these tumors being diagnosed in Stage IC and fewer in Stage IA (Table 15.10). Tumors exhibiting squamous metaplasia exhibit higher survival, particularly in stages III

Figure 15.3: Adenocarcinoma of the Corpus Uteri: 5-Year Relative Survival Rate (%) by Histology and AJCC Stage (SEER modified 3rd edition), Ages 20+, 12 SEER Areas, 1988-2001

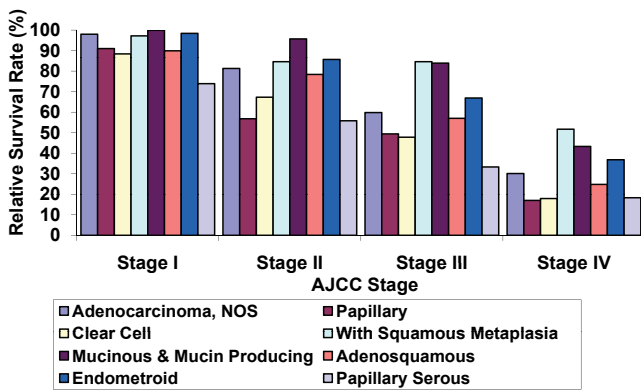


Figure 15.4: Adenocarcinoma of the Corpus Uteri: 5-Year Relative Survival Rate (%) by Grade and AJCC Stage (SEER modified 3rd edition), Ages 20+, 12 SEER Areas, 1988-2001

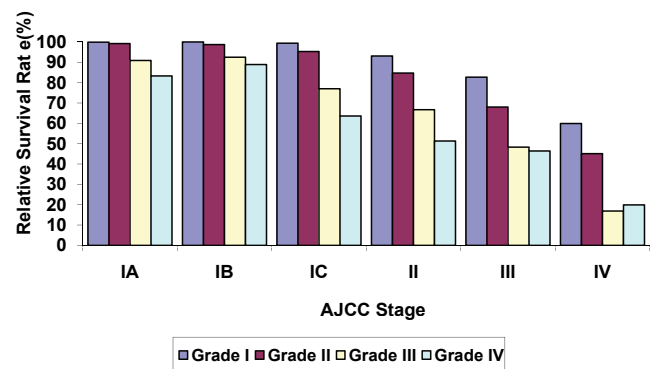


Table 15.9: Adenocarcinoma of the Corpus Uteri: Number of Cases and 5-Year Relative Survival Rates (%) by Histology and AJCC Stage (SEER modified 3rd edition), Ages 20+, 12 SEER Areas, 1988-2001

Histology	AJCC Stage											
	Total		I		II		III		IV		Unknown/Unstaged	
	Cases	5-Year RSR (%)	Cases	5-Year RSR (%)	Cases	5-Year RSR (%)	Cases	5-Year RSR (%)	Cases	5-Year RSR (%)	Cases	5-Year RSR (%)
Total	44,059	87.9	33,179	97.4	3,475	80.2	2,651	59.6	3,284	28.6	1,470	63.5
Adenocarcinoma, NOS*	23,489	90.8	18,775	98.0	1,602	81.3	965	59.8	1,272	30.1	875	66.6
Papillary	1,035	70.3	634	91.0	107	56.8	80	49.4	162	17.0	52	23.4
Clear Cell	704	64.8	338	88.4	90	67.3	94	47.8	139	17.9	43	54.1
With Squamous Metaplasia	1,151	93.8	952	97.2	82	84.6	47	84.6	46	51.7	24	~
Mucinous & Mucin Producing	824	95.0	621	99.9	53	95.7	63	83.9	60	43.3	27	73.1
Adenosquamous	1,256	74.0	730	89.9	161	78.4	136	57.0	191	24.8	38	55.1
Endometrioid	13,258	91.2	10,149	98.4	1,149	85.7	904	66.9	727	36.8	329	65.4
Papillary Serous	1,555	44.7	531	73.9	163	55.8	258	33.3	542	18.3	61	34.4
All Other Adenocarcinoma	787	68.5	449	92.5	68	46.7	104	42.5	145	14.5	21	~

~ Statistic not displayed due to less than 25 cases.
* NOS: Not Otherwise Specified

Table 15.10: Stage I Adenocarcinoma of the Corpus Uteri: Distribution by Histology and Detailed AJCC Stage (SEER modified 3rd edition), Ages 20+, 12 SEER Areas, 1988-2001

Histology	AJCC Stage									
	Total Stage I		IA		IB		IC		I NOS	
	Cases	Row Percent	Cases	Row Percent	Cases	Row Percent	Cases	Row Percent	Cases	Row Percent
Total	33,179	100.0	9,528	28.7	15,084	45.5	4,142	12.5	4,425	13.3
Adenocarcinoma, NOS*	18,775	100.0	5,327	28.4	8,352	44.5	2,239	11.9	2,857	15.2
Papillary	634	100.0	180	28.4	249	39.3	77	12.1	128	20.2
Clear Cell	338	100.0	107	31.7	140	41.4	42	12.4	49	14.5
With Squamous Metaplasia	952	100.0	277	29.1	461	48.4	101	10.6	113	11.9
Mucinous & Mucin Producing	621	100.0	199	32.0	268	43.2	73	11.8	81	13.0
Adenosquamous	730	100.0	125	17.1	345	47.3	153	21.0	107	14.7
Endometrioid	10,149	100.0	2,944	29.0	4,888	48.2	1,353	13.3	964	9.5
Papillary Serous	531	100.0	193	36.3	211	39.7	69	13.0	58	10.9
All Other Adenocarcinoma	449	100.0	176	39.2	170	37.9	35	7.8	68	15.1

* NOS: Not Otherwise Specified

and IV. Clear cell and papillary types show lower survival in stages II-IV.

Stage and Grade

Five-year relative survival rates for adenocarcinoma are shown by tumor grade in Table 15.11 and Figure 15.4. Within stage, 5-year relative survival rates declined as grade increases with the exception of poorly differentiated and anaplastic Stage IV tumors.

Conditional Survival

Five year relative survival rates, conditioned on years since diagnosis, are presented in Table 15.12 and Figure 15.5. For stages IC-IV, the probability of surviving the next 5 years increases as time since diagnosis increases. This is most marked for the stage IV cases. Five year survival from time of diagnosis is 29%. For those individuals who survive 1 year post diagnosis, 5-year survival increases to 43%. This increases to 86% for those individuals who survived 5 years.

Table 15.11: Adenocarcinoma of the Corpus Uteri: Number of Cases and 5-Year Relative Survival Rates (%) by AJCC Stage (SEER modified 3rd edition) and Grade, Ages 20+, 12 SEER Areas, 1988-2001

AJCC Stage	Grade											
	Total		Well Differentiated		Moderately Differentiated		Poorly Differentiated		Anaplastic		Unknown	
	Cases	5-Year RSR (%)	Cases	5-Year RSR (%)	Cases	5-Year RSR (%)	Cases	5-Year RSR (%)	Cases	5-Year RSR (%)	Cases	5-Year RSR (%)
Total	44,059	87.9	17,429	99.2	15,002	90.8	7,544	64.9	1,294	54.8	2,790	72.9
Stage I	33,179	97.4	15,472	100.0	11,492	97.2	4,061	86.6	557	79.7	1,597	93.0
IA	9,528	99.3	5,517	99.9	2,599	99.2	741	90.9	114	83.3	557	95.3
IB	15,084	99.2	6,631	100.0	5,741	98.7	1,895	92.5	261	88.9	556	95.7
IC	4,142	91.9	1,161	99.4	1,813	95.3	899	77.0	124	63.6	145	88.0
I NOS*	4,425	92.1	2,163	98.4	1,339	89.9	526	75.3	58	60.9	339	85.2
Stage II	3,475	80.2	847	93.1	1,399	84.7	835	66.7	150	51.3	244	68.3
Stage III	2,651	59.6	370	82.7	898	68.0	970	48.3	210	46.4	203	45.0
Stage IV	3,284	28.6	269	59.9	801	45.1	1,426	16.9	323	19.9	465	21.1
Unknown/Unstaged	1,470	63.5	471	79.4	412	63.1	252	36.3	54	38.3	281	62.8

* NOS: Not Otherwise Specified

SARCOMA AND OTHER SPECIFIED TYPES

Subtype and Stage

Of the 3,742 cases of sarcoma and other specified types, enough information to establish stage at diagnosis was available for 3,580 (96%). Fifty six percent were diagnosed in Stage I, while 22% were Stage IV (Table 15.13).

Survival by stage for sarcomas overall is presented in Figure 15.6. Survival by subtype and stage is presented in Table 15.14. Despite some data sparseness in Stage II, it is observed that endometrial stromal tumors experience a better survival across stage than do either tumors categorized as

leiomyosarcoma, carcinosarcoma, or Mullerian, which had similar survival rates.

Stage and Grade

Despite data sparseness in well differentiated, within stage, 5-year relative survival declines as grade increases (Table 15.15).

Conditional Survival

Five year relative survival, conditioned on years since diagnosis, is presented in Table 15.16 and Figure 15.7 for sarcomas and other specific types. For all stages, the probability of surviving the next 5 years increased as time since

Figure 15.5: Adenocarcinoma of the Corpus Uteri: 5-Year Relative Survival Rate (%), Conditioned on Years Since Diagnosis, by AJCC Stage (SEER modified 3rd edition), Ages 20+, 12 SEER Areas, 1988-2001

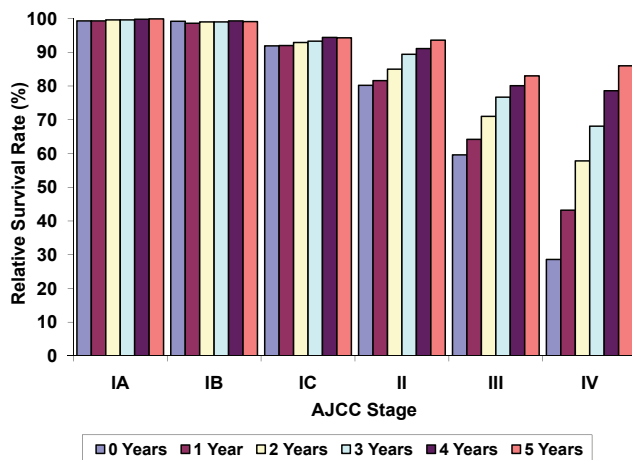


Figure 15.6: Sarcoma and Other Specified Types of Cancer of the Corpus Uteri: Relative Survival Rates (%) by AJCC Stage (SEER modified 3rd edition), Ages 20+, 12 SEER Areas, 1988-2001

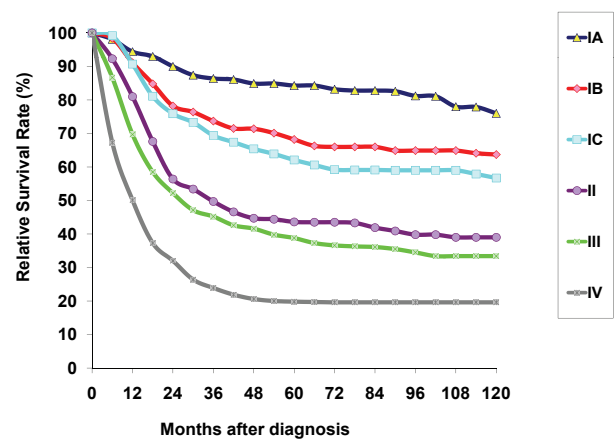


Table 15.12: Adenocarcinoma of the Corpus Uteri: 5-Year Relative Survival Rates (%), Conditioned on Years Since Diagnosis, by AJCC Stage (SEER modified 3rd edition), Ages 20+, 12 SEER Areas, 1988-2001

AJCC Stage	5-Year Relative Survival Rate (%)						
	Years Since Diagnosis						
	0	1	2	3	4	5	
Total	87.9	91.2	93.9	95.5	96.9	97.4	
Stage I	97.4	97.3	97.9	98.1	98.7	98.7	
IA	99.3	99.3	99.6	99.6	99.8	99.9	
IB	99.2	98.6	99.0	99.0	99.3	99.1	
IC	91.9	92.0	92.9	93.3	94.4	94.3	
I NOS*	92.1	93.2	94.6	95.7	97.1	97.2	
Stage II	80.2	81.6	85.0	89.4	91.1	93.6	
Stage III	59.6	64.2	71.0	76.7	80.1	83.0	
Stage IV	28.6	43.2	57.8	68.1	78.6	86.0	
Unknown/Unstaged	63.5	71.5	79.4	84.2	86.0	87.5	

* NOS: Not Otherwise Specified

Table 15.13: Sarcoma & Other Specified Types of Corpus Uterine Cancer: Number and Distribution of Cases and 1-, 2-, 3-, 5-, 8-, & 10-Year Relative Survival Rates (%) by AJCC Stage (SEER modified 3rd edition), Ages 20+, 12 SEER Areas, 1988-2001

AJCC Stage	Cases	Percent	Relative Survival Rate (%)					
			1-Year	2-Year	3-Year	5-Year	8-Year	10-Year
			Percent	Percent	Percent	Percent	Percent	Percent
Total	3,742	100.0	78.4	64.4	58.4	53.3	50.0	49.1
Stage I	2,081	55.6	92.2	81.4	76.3	70.8	66.2	64.5
IA	397	10.6	94.4	90.0	86.4	84.3	81.2	76.0
IB	558	14.9	91.1	78.2	73.7	68.2	64.9	63.7
IC	280	7.5	90.7	75.9	69.4	62.1	59.0	56.7
I NOS	846	22.6	92.4	81.3	75.4	68.7	61.7	61.0
Stage II	277	7.4	81.0	56.4	49.7	43.6	39.8	39.0
Stage III	394	10.5	69.7	52.2	45.2	38.8	34.5	33.4
Stage IV	828	22.1	50.1	32.0	23.9	19.8	19.6	19.6
Unknown/Unstaged	162	4.3	62.0	49.2	44.8	39.7	35.9	34.6

* NOS: Not Otherwise Specified

Table 15.14: Sarcoma & Other Specified Types of Corpus Uterine Cancer: Number of Cases and 5-Year Relative Survival Rates (%) by Histology and AJCC Stage (SEER modified 3rd edition), Ages 20+, 12 SEER Areas, 1988-2001

Histology	AJCC Stage											
	Total		I		II		III		IV		Unknown/Unstaged	
	Cases	5-Year Relative Survival Rate(%)	Cases	5-Year Relative Survival Rate(%)	Cases	5-Year Relative Survival Rate(%)	Cases	5-Year Relative Survival Rate(%)	Cases	5-Year Relative Survival Rate(%)	Cases	5-Year Relative Survival Rate(%)
Total	3,742	53.3	2,081	70.8	277	43.6	394	38.8	828	19.8	162	39.7
Leiomyosarcoma	939	48.2	623	60.0	28	35.1	64	27.7	185	14.9	39	51.6
Carcinosarcoma	706	53.7	401	73.7	62	43.3	97	26.2	122	13.6	24	~
Endometrial Stromal	610	74.6	372	89.8	27	40.0	85	64.3	106	37.0	20	~
Mullerian	1,264	45.3	570	66.7	147	45.7	132	34.8	353	18.2	62	19.4
All Other	223	53.6	115	74.3	13	~	16	~	62	21.4	17	~

~ Statistic not displayed due to less than 25 cases.

Table 15.15: Sarcoma & Other Specified Types of Corpus Uterine Cancer: Number of Cases and 5-Year Relative Survival Rates (%) by AJCC Stage (SEER modified 3rd edition) and Grade, Ages 20+, 12 SEER Areas, 1988-2001

AJCC Stage	Grade									
	Total		Well Differentiated		Moderately Differentiated		Poorly/Undifferentiated		Unknown	
	Cases	5-Year Relative Survival Rate(%)	Cases	5-Year Relative Survival Rate(%)	Cases	5-Year Relative Survival Rate(%)	Cases	5-Year Relative Survival Rate(%)	Cases	5-Year Relative Survival Rate(%)
Total	3,742	53.3	218	86.1	593	79.2	1,351	35.8	1,580	52.8
Stage I	2,081	70.8	167	92.6	435	84.8	603	54.8	876	69.8
IA	397	84.3	37	96.2	80	88.8	60	71.6	220	82.8
IB	558	68.2	32	88.0	93	84.0	215	58.6	218	66.7
IC	280	62.1	10	~	48	84.6	118	47.6	104	63.3
I NOS*	846	68.7	88	90.4	214	83.1	210	49.9	334	64.4
Stage II	277	43.6	8	~	26	78.6	124	36.0	119	39.2
Stage III	394	38.8	14	~	59	68.6	177	28.2	144	35.8
Stage IV	828	19.8	20	~	58	47.9	407	13.2	343	20.7
Unknown/Unstaged	162	39.7	9	~	15	~	40	9.1	98	44.3

~ Statistic not displayed due to less than 25 cases.

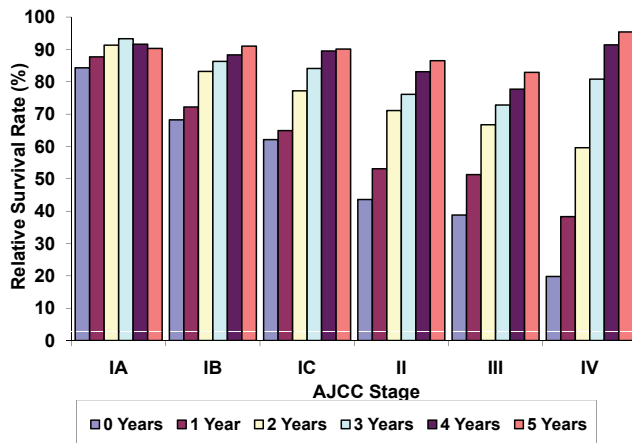
* NOS: Not Otherwise Specified

Table 15.16: Sarcoma & Other Specified Types of Corpus Uterine Cancer: 5-Year Relative Survival Rates (%), Conditioned on Years Since Diagnosis, by AJCC Stage (SEER modified 3rd edition), Ages 20+, 12 SEER Areas, 1988-2001

AJCC Stage	5-Year Relative Survival Rate(%)					
	Years Since Diagnosis					
	0	1	2	3	4	5
Total	53.3	64.8	77.8	83.2	87.2	89.5
Stage I	70.8	73.8	82.6	85.6	88.2	90.0
IA	84.3	87.7	91.3	93.3	91.6	90.3
IB	68.2	72.2	83.2	86.3	88.3	91.0
IC	62.1	64.9	77.2	84.1	89.5	90.1
I NOS*	68.7	70.6	78.4	81.1	84.9	88.2
Stage II	43.6	53.1	71.1	76.1	83.1	86.5
Stage III	38.8	51.3	66.7	72.8	77.7	82.9
Stage IV	19.8	38.3	59.6	80.8	91.4	95.4
Unknown/Unstaged	39.7	56.5	67.1	69.9	73.7	74.5

* NOS: Not Otherwise Specified

Figure 15.7: Sarcoma and Other Specified Types of Cancer of the Corpus Uteri: 5-Year Relative Survival Rate (%), Conditioned on Years Since Diagnosis, by AJCC Stage (SEER modified 3rd edition), Ages 20+, 12 SEER Areas, 1988-2001



diagnosis increased. This is most marked for the stage IV cases. Five year survival from time of diagnosis was 20%. For those individuals who survived 1 year post diagnosis, 5-year survival increased to 38%. This increased to 91% for those individuals who survived 4 years.

DISCUSSION

Survival is lower for blacks compared to whites regardless of age, and is most pronounced in women over 70 years of age. The majority of corpus uteri tumors are adenocarcinomas. Of these, more than 70% are diagnosed in stage I and have a median survival greater than 10 years for women of all age groups, except in women over 70 years of age with stage IC where the median survival is slightly less than 10 years. There exists a differential in survival by age and across stage of disease II-IV. The poorer survival in

older women is compounded by advanced stage. In later stages, particularly stages III and IV, survival declines rapidly over time since diagnosis.

Overall, all histologies in stage I had a favorable 5-year survival. The papillary serous histology had the worst survival across all stages, while papillary metaplasia had the highest survival in stages II-IV. In the group of sarcoma histologies, endometrial stromal sarcomas had a better survival across stage than other sarcomas.

Across all stages, survival declined with advanced stage of disease, with the exception of poorly differentiated and anaplastic tumors where there is little difference in survival for adenocarcinomas.

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1. American Cancer Society. Cancer Facts and Figures 2006. Atlanta: American Cancer Society, 2006.
2. Beahrs, OH, Henson DE, Hutter RVP, Myers MH (eds). AJCC Cancer Staging Manual, Third edition. American Joint Committee on Cancer. Philadelphia: Lippincott, 1988.