ZIP CODE CANCER INCIDENCE SCREENING EVALUATION
FOR AREAS NEAR THE NEPERA CHEMICAL FACILITY,
HARRIMAN, ORANGE COUNTY, NEW YORK:
ZIP CODES 10917, 10926 (INCLUDING 10910 AND 10975),
10928 (INCLUDING 10922), 10930, 10950,

Prepared by the:
New York State Department of Health

Cancer Surveillance Program
Bureau of Chronic Disease Epidemiology and Surveillance

With the assistance of the
New York State Cancer Registry
And the
Community Exposure Research Section
Bureau of Environmental and Occupational Epidemiology

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Chief, Community Exposure Research Section  9/2005
In March of 2000, in the Village of Harriman, Orange County, members of the Nepera Task Force met with NYS DOH to discuss concerns about possible health effects associated with the Nepera chemical plant. Task force members, including elected officials, representatives of the local village and town governments, community organizations, and the local school superintendent, requested that the New York State Department of Health (NYS DOH) conduct an investigation of cancer among residents living near the Nepera facility and among children attending Monroe-Woodbury schools. The Monroe-Woodbury school campus is located approximately one mile northeast of the Nepera facility. In response to this request, the Center for Environmental Health of NYS DOH requested that the Cancer Surveillance Program of NYS DOH conduct a ZIP Code screening investigation of the incidence of cancer among children and adults in the Village of Harriman, Orange County and surrounding areas. This report presents the results of the ZIP Code screening investigation.

The Nepera chemical plant has operated at its 28 acre site in the Village of Harriman, Orange County since 1942. The plant manufactures pharmaceutical chemicals and intermediate chemicals that are used in herbicides, pesticides and other chemicals. The Nepera facility property includes an inactive hazardous waste site resulting from past disposal practices as well as an incinerator.

The ZIP Codes selected for inclusion in the cancer evaluation for residents near Nepera include ZIP Codes 10917, 10926 (including post office or point ZIP Codes 10910 and 10975), 10928 (including post office or point ZIP Code 10922), and 10930. ZIP Codes 10930, 10928 and 10926 include large areas more distant from Nepera. (See the attached map.) These ZIP Codes are included in the evaluation because portions of each of these ZIP Codes are close to the Village of Harriman. Including these entire ZIP Codes should not substantially affect the overall results of the evaluation because the more distant areas are very sparsely populated.

For the evaluation of cancer incidence among people who are likely to have attended school at the Monroe-Woodbury campus near the Nepera facility, one additional ZIP Code, 10950, was included in addition to the seven ZIP Codes above. This is a large ZIP Code, and contributes substantially to the size of the population.
included in the evaluation. For the larger eight ZIP Code area, cancer incidence was evaluated for all ages and for children ages 0-19 considered separately.

For the evaluations of cancer among persons of all ages conducted for both groups of ZIP Codes (with and without ZIP Code 10950), the review includes the most recent five-year time period for which data from the New York State Cancer Registry were complete when this investigation began, 1994-1998. Since cancer is relatively rare in children, the investigation of childhood cancers (ages 0-19) includes the most recent 10-year time period, 1989-1998.

A general summary of the methods used by the Cancer Surveillance Program to conduct this investigation, a map of the area, and tables of the findings are attached. Comparisons between the observed, or actual, numbers of cancers diagnosed and the numbers expected were made for all cancers combined, and separately for fifteen cancers occurring in both males and females, two occurring in males only and four occurring in females only. For children, age 0-19, the comparisons were made for all cancers combined, and separately for six cancers occurring in both males and females. The Cancer Surveillance Program withholds numbers of cases of cancer that are smaller than six in small area studies such as this one. Due to the observed numbers being smaller than six for some types of cancer, some anatomic sites or numbers of cases are not included in the tables in order to protect confidentiality.

Results are presented for persons of all ages in the eight-ZIP Code study area in Table 1; for children, ages 0-19, for the eight-ZIP Codes study area in Table 2; and for persons of all ages in the seven-ZIP Code study area in Table 3.

The results for persons of all ages residing in the eight-ZIP Code area (Table 1) show that the total numbers for both males and females with cancer were not significantly different from the total numbers expected. The small differences that were seen are consistent with the effects of random variation. In males, numbers of cancer cases actually diagnosed were not significantly different from the numbers expected for any particular type of cancer. In females, the numbers of cases of cancer of the kidney/renal pelvis, thyroid, and lymphomas were all significantly greater than expected.
Table 2 shows results for children, age 0-19, in the eight-Zip Code study area, for males and females combined. The total number of cancer cases observed was close to the number expected. There were no significant excesses in any individual cancer. Due to small numbers of cases, observed numbers for only two types of cancer for children can be shown in the table.

Table 3 for the seven-Zip Code study area shows that the total number of females with cancer was close to the number expected and the total number of males with cancer was significantly less than expected. For males, the numbers of cases of cancer of the prostate and urinary bladder were both significantly less than expected. The number of cases of thyroid cancer in females was significantly more than expected and the number of cases of breast cancer was significantly less than expected.

The excesses in numbers of cases of thyroid cancer, lymphoma, and kidney cancer were examined in greater detail. As noted above, numbers of cases of thyroid cancer in females were significantly greater than expected in the smaller (seven-ZIP Code) and larger (8-ZIP Code) study areas. Numbers of cases were also greater than expected in most of the ZIP Codes examined separately, but this difference was only statistically significant in ZIP Code 10930. For all ZIP Codes combined, most cases of thyroid cancer were detected at an early stage, and there were no unusual features in the cell types affected, or the ages of the women at the time of their diagnosis. The addresses at the time of diagnosis of the women with thyroid cancer were also plotted on a map of the study area. The addresses of the women with thyroid cancer follow the distribution of the population in this area, with no apparent concentration in the area of the Nepera site. It may be important to note that the average annual thyroid cancer incidence among females in all of Orange County for 1994-1998 was significantly greater than in all of New York State, exclusive of New York City (11.4 vs. 7.9 cases per 100,000 women respectively, age-adjusted to the 1970 U.S. population).

Lymphomas were statistically significantly elevated among females of all ages in the larger study area including all eight ZIP Codes. The excess in the number of cases of lymphomas can be accounted for by an excess in numbers of a particular type of lymphoma, Hodgkin's disease. The numbers of cases of all other types of lymphoma, collectively known as the non-Hodgkin's lymphomas, were similar to or less than the
numbers expected among both males and females. Looking at Hodgkin’s disease separately, numbers were higher than expected among both males and females, in all ZIP Codes combined, in ZIP Codes excluding 10950, and in ZIP Code 10950. The majority of males and females affected were young adults at the time of their diagnosis. The cell type most commonly seen was the one most commonly found among young adults. Addresses at the time of diagnosis of all males and females diagnosed with Hodgkin’s disease were also plotted on a map of the area. Although there were people diagnosed with Hodgkin’s disease living in close proximity (within ½ mile) of the Nepera site at the time of their diagnosis, this number was a small proportion of the cases and could not account for the observed excess in cases.

For females of all ages, the number of kidney cancer diagnoses was statistically significantly elevated for the eight-ZIP Code area. The excess was statistically significant in only one individual ZIP Code, 10930. Addresses at the time of diagnosis for all females with kidney cancer were plotted on a map of the area. Although there was a very small number of people diagnosed with kidney cancer living approximately one mile from the Nepera facility at the time of their diagnosis, most of the people with kidney cancer diagnoses lived several miles from the plant. The ages of the people with kidney cancer diagnoses showed a range typical for this type of cancer, with the majority of individuals over age 60 at the time of diagnosis.

In conclusion, in the smaller study area, designed to represent the area where residences may have been impacted by Nepera emissions, overall numbers of total cancer diagnoses were statistically significantly low among males, and were not significantly different than expected for females. In this smaller area, excluding ZIP Code 10950, one specific type of cancer, thyroid cancer, was statistically significantly elevated among females. There were also some cancer types that showed statistically significant deficits in the smaller study area: observed numbers of prostate and bladder cancer diagnoses among males and breast cancer diagnoses among females were statistically significantly lower than expected in this study area.

Cancer diagnoses occurring from 1989 through 1998 among children age 0-19 were not significantly elevated in the larger area including ZIP Code 10950, designed to approximate the area served by the Woodbury-Monroe School District. Overall
numbers of total cancer diagnoses for all ages from 1994-1998 were not significantly elevated for either males or females in the larger study area. Three specific types of cancer, thyroid cancer, lymphoma, and kidney cancer were statistically significantly elevated among females in this larger area.

For the three cancer types that showed statistically significant elevations among females, an additional review of ages at diagnoses, cancer sub-types, and residential addresses at the time of diagnosis was conducted. This review did not suggest any unusual pattern other than the elevation in numbers of diagnoses for the five-year period.

As stated in the attached information sheet on the “Methods for Cancer Incidence Studies of Small Areas,” tests of statistical significance help us identify results that are least likely to be due to chance variations in numbers in small areas or over short time periods. But when many statistical tests are conducted, some, approximately one out of every 20 tests, will be statistically significant due to chance alone. In this cancer evaluation, more than 40 statistical tests were conducted for one study area only (more than 80 for both study areas), making it likely that some statistically significant findings would appear, even by chance. Given this, and the lack of other unusual characteristics or locations for the cancer diagnoses observed, this screening study does not suggest an unusual pattern of cancer diagnoses that warrants additional follow-up at this time.

Additional information on the methods used in this evaluation and the limitations of these methods is available in the attached information sheet. Background information on cancer of the kidney/renal pelvis, thyroid cancer, and Hodgkin’s disease, along with information on cancer in general are also attached to this report.

If you have any questions or comments regarding this cancer investigation, please call Aura Weinstein, Director, Cancer Surveillance Program. If you have any questions or comments regarding environmental health concerns, please call Jim Bowers at 1-800-458-1158, ext. 27950.
<table>
<thead>
<tr>
<th>SITES (ICD-9)*</th>
<th>MALES</th>
<th>FEMALES</th>
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<tr>
<td></td>
<td>Observed</td>
<td>Expected</td>
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<tr>
<td>All Sites (140-208, 42.2, 233.7)</td>
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<td>Lung / Bronchus (162.2-162.9)</td>
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<td>Female Breast (174)</td>
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<td>128</td>
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<td>Cervix uteri (180)</td>
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<tr>
<td>Corpus Uterus / Uterus NOS (179, 182)</td>
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<td>27</td>
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<tr>
<td>Ovary (183.0)</td>
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<td>18</td>
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<tr>
<td>Prostate (185)</td>
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<td>112</td>
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<tr>
<td>Testis (186)</td>
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<td>7</td>
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<tr>
<td>Urinary Bladder (188, 233.7 [in situ])</td>
<td>26</td>
<td>31</td>
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<tr>
<td>Kidney / Renal Pelvis (189.0-189.1)</td>
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<td>13</td>
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<tr>
<td>Brain / Other Nervous System (191)</td>
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<tr>
<td>Thyroid (193)</td>
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<tr>
<td>Lymphomas (200-202.2, 202.8-202.9)</td>
<td>25</td>
<td>23</td>
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<tr>
<td>Leukemias (204-208, 202.4,203.1)</td>
<td>14</td>
<td>13</td>
</tr>
</tbody>
</table>

*Classification of site is based on International Classification of Diseases, ninth revision.

*Data were obtained from the New York State Cancer Registry (database as of April 2001).

*Expected numbers are based on standard cancer incidence rates by age and sex for New York State, exclusive of New York City. Standard rates are applied to the average 1994-1998 study population (23,589 males 23,174 females) to obtain expected numbers of cases.

*Includes observed and expected numbers of cases at sites of cancer not listed below.

*The number of cases is not shown to protect patient confidentiality.

*Denotes a statistically significant difference from expected. The probability that this difference is due to chance is less than 5%.
**TABLE 2**
Observed and Expected Numbers of Incident Cancer Cases (Age 0-19),
ZIP Codes 10917, 10926 (including 10910 and 10975), 10928 (including 10922), 10930, 10950
Orange County, New York, 1989-1998

<table>
<thead>
<tr>
<th>SITES (ICD-9)(^d)</th>
<th>MALES AND FEMALES COMBINED</th>
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<tbody>
<tr>
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<td>Observed(^b)</td>
</tr>
<tr>
<td>All Sites (140-208, 42.2, 233.7)(^d)</td>
<td>31</td>
</tr>
<tr>
<td>Brain / Other Nervous System (191, 192)</td>
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<tr>
<td>Leukemias (204-208, 202.4,203.1)</td>
<td>6</td>
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\(^a\)Classification of site is based on International Classification of Diseases, ninth revision.

\(^b\)Data were obtained from the New York State Cancer Registry (database as of April 2001).

\(^c\)Expected numbers are based on standard cancer incidence rates by age and sex for New York State, exclusive of New York City. Standard rates are applied to the average 1989-1998 study population (16,770 males and females combined) to obtain expected numbers of cases.

\(^d\)Includes observed and expected numbers of cases at sites of cancer not listed below.

\(^*\)The number of cases is not shown to protect patient confidentiality.

\(^*\)Denotes a statistically significant difference from expected. The probability that this difference is due to chance is less than 5%.
### TABLE 3
Observed and Expected Numbers of Incident Cancer Cases, ZIP Codes 10917, 10926 (including 10910 and 10975), 10928 (including 10922), 10930 Orange County, New York, 1994-1998

<table>
<thead>
<tr>
<th>SITES (ICD-9)</th>
<th>MALES</th>
<th></th>
<th></th>
<th>FEMALES</th>
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<tr>
<td></td>
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<td>Expected</td>
<td>Observed</td>
<td>Expected</td>
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<tr>
<td>All Sites (140-208, 42.2, 233.7)</td>
<td>167*</td>
<td>223</td>
<td>201</td>
<td>219</td>
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<tr>
<td>Colorectal (153-154.1, 159.0)</td>
<td>24</td>
<td>27</td>
<td>23</td>
<td>25</td>
<td></td>
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<tr>
<td>Other Digestive: Esophagus (150), Stomach (151), Liver / Intrahepatic Bile Duct (155), and Pancreas (157)</td>
<td>10</td>
<td>17</td>
<td>11</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lung / Bronchus (162.2-162.9)</td>
<td>36</td>
<td>37</td>
<td>22</td>
<td>29</td>
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<tr>
<td>Female Breast (174)</td>
<td></td>
<td>47*</td>
<td>66</td>
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</tr>
<tr>
<td>Corpus Uterus / Uterus NOS (179, 182)</td>
<td>7</td>
<td>14</td>
<td></td>
<td></td>
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<tr>
<td>Ovary (183.0)</td>
<td>8</td>
<td>9</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Prostate (185)</td>
<td>28*</td>
<td>59</td>
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<tr>
<td>Urinary Bladder (188, 233.7 [in situ])</td>
<td>7*</td>
<td>16</td>
<td>-</td>
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<tr>
<td>Kidney / Renal Pelvis (189.0-189.1)</td>
<td>7</td>
<td>7</td>
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<tr>
<td>Thyroid (193)</td>
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<td>2</td>
<td>12*</td>
<td>5</td>
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<tr>
<td>Lymphomas (200-202.2, 202.8-202.9)</td>
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<td>12</td>
<td>14</td>
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<td></td>
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<td>Leukemias (204-208, 202.4,203.1)</td>
<td>8</td>
<td>6</td>
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*Classification of site is based on International Classification of Diseases, ninth revision.
*Data were obtained from the New York State Cancer Registry (database as of April 2001).
*Expected numbers are based on standard cancer incidence rates by age and sex for New York State, exclusive of New York City. Standard rates are applied to the average 1994-1998 study population (10,549 males, 10,688 females) to obtain expected numbers of cases.
*Includes observed and expected numbers of cases at sites of cancer not listed below.
*The number of cases is not shown to protect patient confidentiality.
*Denotes a statistically significant difference from expected. The probability that this difference is due to chance is less than 5%.
ZIP CODES NEAR NEPERA SITE
VILLAGE OF HARRIMAN
ORANGE COUNTY, NEW YORK

Legend

<table>
<thead>
<tr>
<th>Symbol</th>
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<td></td>
<td>ZIP Code Boundaries</td>
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<td></td>
<td>Village Boundaries</td>
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Hudson River

ROCKLAND COUNTY

0  2.5  5
Miles

ZIP Codes:
- 10930
- 10950
- 10917
- 10926
- 10928
- 10922
- 10975
- 10910
- Nepera Site

Village of Harriman, Orange County, New York
Study Plan:

Small area studies are designed to determine if the number of cancers occurring among residents of a particular area is unusual. To do this, the number of residents of the study area diagnosed with cancer is compared to the number expected, based on the cancer rates for New York State, excluding New York City.

Identifying Cases (Observed):

Residents of the study area who were diagnosed with cancer between 1994 and 1998 are identified from the New York State Cancer Registry. As required by New York State law, the Cancer Registry contains information on all individuals diagnosed with cancer in the State. The Registry receives this information from hospitals, death certificates and various other sources. Cancer Registry files are continuously updated and all of the information received is combined to provide a complete and accurate picture of a person's cancer diagnosis.

Calculating Expected Cases (Expected):

To determine if the number of residents diagnosed with cancer in the study area is unusual, we calculate the number of cancers that would be expected in the area. This calculation takes into account the number of residents in the area (population), including their age and sex. In this study, the expected number of cases was calculated by multiplying the cancer incidence rates, by age and sex, for New York State (excluding New York City) by the estimated population of the study area, by age and sex. The study area population for 1994 through 1998 was estimated using the U.S. Census and information from commercial vendors.

Types of Cancer (Anatomic Sites) Studied:

We examined the anatomic sites (location in the body) of cancer that the requestor was concerned about. The number of cases for some anatomic sites of cancer may not appear on the attached table in order to protect the privacy of individuals reported to the New York State Cancer Registry.

Statistical Testing:

We compared the actual number of cancers in the study area to the expected number of cancers. Sometimes a difference between the observed number of cancers and the expected number occurs due to chance. We used a statistical test to determine the probability that the actual number of cancers was larger or smaller than the number expected due only to chance. We considered this difference to be statistically significant if there was a low probability that the difference was due to chance (less than 5%).
Study Limitations:

There are a number of things that should be kept in mind when looking at a study of this type. These include:

Effects of Chance (Multiple Comparisons): Approximately one out of every 20 statistical tests (5%) done in this type of study will be statistically significant due to chance alone. In this study, a large number of comparisons were made between expected and observed cancers for different anatomic sites for males and for females. When many statistical tests are done, the probability is high that at least one statistically significant difference may occur entirely by chance. It is not always possible to determine if a significant difference is due to chance alone.

Small Numbers of Cancer Cases (Statistical Power): In an area that has few cancer cases, it is difficult to detect an unusual difference between the number of cancers observed and the number expected. A large number of observed or expected cancers is required before we can be certain that what we observe is statistically different from what is expected. Our ability to detect this difference is called statistical power.

Migration (Residence): Migration is the movement of people in or out of the study area. For example, people who lived in the study area for a long time and move away shortly before they are diagnosed with cancer are not included in the study. People who lived elsewhere but moved into the study area shortly before their diagnosis are included in the study. Therefore, migration influences our ability to determine if living in the study area increases or decreases an individual's risk of getting cancer.

Populations/ZIP Code areas: As indicated in the section labeled “Calculating Expected Cases”, an estimated population of the study area is used to calculate the number of expected cases. The population is estimated based on information from the U.S. Census and data from commercial vendors, incorporating information on births, deaths and migration. We believe the population estimates to be reasonably accurate. However, because they are estimates and the actual number of residents in the study area may differ, the expected number of cases is also an estimated number.

In a few cases, ZIP Code populations were combined with those of adjacent ZIP codes because of changes in mail delivery patterns during the study period. Also, when a ZIP Code had no mail delivery area (e.g. post office boxes only), it was combined with an adjacent ZIP Code.

Interpretation: Studies such as the one done here cannot determine a cause-and-effect relationship. Cancer surveillance investigations can only tell us about the pattern of cancer in a particular study area. They cannot tell us that living in the study area increases or decreases a person’s risk for getting cancer. Findings that are considered to be "statistically significant" may provide leads for further investigation of the cancer experience of a community.
What is cancer?

Cancer is not a single disease, but more than 100 different diseases. It is characterized by the abnormal growth of cells in the body.

The body is made up of billions of cells. These cells reproduce by dividing. Through this process the body grows and repairs itself. Sometimes, a cell begins dividing abnormally and tumors form. Tumors may be benign or malignant. Malignant tumors (cancers) can spread to other tissues or organs nearby or to other parts of the body. This is called metastasis. Cancers grow at different speeds. Some may grow quickly; others may grow slowly over a period of many years.

Some cancers are easily cured, others are more difficult to treat. This depends largely on the place in the body where the cancer cells grow, how large the tumor is when it is first found, and if it has spread. Doctors usually consider tumors that start in different parts of the body (not those that spread, but new tumors) to be different diseases. Generally, each type of cancer has its own risk factors, symptoms, outlook for cure, and methods of treatment.

What causes cancer?

No one knows for sure why a normal cell becomes a cancer cell. Many causes of cancer have been identified. Sometimes there is a family history of cancer. Scientists agree that people can get cancer through repeated long-term contact with carcinogens. These include tobacco, sunlight, X-rays, and certain chemicals that may be found in the air, water, food, drugs and workplace. Our personal habits and lifestyle may contribute to most cancers. It is believed that about 30% of cancer deaths are due to tobacco. Some cancer risk may be related to diet.

How soon after exposure to a carcinogen does the cancer appear?

Cancers develop slowly in people. They usually appear five to 40 years after exposure to a carcinogen. For example, cancer of the lung may not occur until 30 years after a person starts smoking. This long latency period is one of the reasons it is difficult to determine what causes cancer in humans.

Who gets cancer?

Cancer is a very common disease. One in three people will be diagnosed with cancer at some time in their life. Eventually, cancer occurs in three out of every four families. In New York, nearly one in four deaths is due to cancer.

Cancer occurs at all ages, but most often in middle-aged and older people. The number of people diagnosed with cancer has increased over the past 40 years. Most of this is due to the increase in the population and because people are living longer.

The most common cancers diagnosed among men, besides skin, are prostate, lung and colon cancer. Among women, they are cancers of the breast, lung and colon.

Terms

- Benign Tumor - An unusual growth of cells that is not cancer. It cannot spread to other parts of the body.
- Malignant Tumor - A cancerous tumor. It has the ability to spread to other parts of the body.
- Metastasis - Cancer that has spread to another part of the body.
- Carcinogen - Something that causes cancer, also known as a cancer causing agent.
- Latency - The time between exposure to a cancer causing agent and when a person develops cancer.

Tips for Lowering Cancer Risk

- Stop smoking or using tobacco of any kind.
- Get regular health check-ups.
- Eat high-fiber, vitamin rich foods each day (fruits, vegetables, whole grain bread and cereal).
- Eat foods low in fat (fruits, vegetables, cereals, lean meat and low-fat dairy products).
- Exercise regularly.
- Drink alcoholic beverages only in moderation.
- Avoid exposure to known cancer causing agents.
- Avoid unnecessary X-rays.
- Avoid too much sunlight; wear protective clothing and use sunscreen.
- Discuss the risk of hormone replacement therapy with your health care provider.
- Be aware of health and safety rules at work and follow them.
What should people know about thyroid cancer?

The thyroid is a butterfly-shaped gland in the neck. It is located below the Adam’s apple and makes hormones. These hormones help control blood pressure, body temperature, the rate at which the heart beats, and how fast food is converted into energy. Hormones from the thyroid gland also affect a child’s growth and development. The thyroid uses iodine, a mineral found in foods, to make some of its hormones.

Thyroid cancer is one of the less common cancers among New York State residents. Each year, about 250 new cases of thyroid cancer are diagnosed among men and more than 700 new cases are diagnosed among women in New York. Because it is generally a slow-growing cancer and usually responds well to treatment, the number of deaths due to thyroid cancer is low. In New York, about 37 men and 65 women die from the disease each year.

Who gets thyroid cancer?

Thyroid cancer occurs two to three times more frequently in women than in men. Women of childbearing age are at the highest risk of getting thyroid cancer, followed by older people (both men and women). Thyroid cancer occurs more frequently in whites than in African-Americans.

Is the number of people with thyroid cancer increasing?

Nationally, the incidence of thyroid cancer has been increasing over the past 50 years. This is also true in New York State. Although some of this increase is most likely due to the past use of radiation to treat some medical conditions, it does not account for all of the increase. Scientists are still trying to determine why thyroid cancer is on the increase.

What causes thyroid cancer?

Scientists do not know exactly what causes thyroid cancer. One known risk factor is exposure to radiation during childhood. Before doctors were aware of the dangers, radiation was used to treat a variety of conditions including acne and swelling of the lymph nodes, tonsils and thymus gland. People who received radiation treatments to the head and neck in childhood are at higher risk of getting thyroid cancer.

Some research studies also show that exposure to radioactive substances (such as radioactive iodine) during childhood may be associated with an increased risk of thyroid cancer. Scientists are also studying the relationship between cancer on the thyroid and exposure to radiation or radioactive substances in adulthood, having a non-cancerous thyroid condition, having a relative with a non-cancerous thyroid condition and diet (including iodine consumption).

What does it mean when something “is associated with” thyroid cancer?

It means that there is a link between the two, but there is no proof of cause and effect. More research needs to be done before we know for certain.
What should people know about Hodgkin's disease?

Hodgkin's disease (Hodgkin's lymphoma) is one of a group of cancers called lymphomas. Lymphoma is the name for cancers that develop in the lymphatic system, a part of the body's immune system. The lymphatic system helps the body fight infection and diseases. It is made up of thin tubes, similar to blood vessels, that branch into tissue throughout the body. These tubes carry a watery, colorless fluid, called lymph, which contains infection-fighting cells, called lymphocytes. Along the network of tubes are small, oval-shaped organs called lymph nodes. Groups of lymph nodes are found in the armpits, neck, chest, abdomen and groin.

Other parts of the lymphatic system are the thymus, spleen, tonsils and bone marrow. Lymphatic tissue is also found in the stomach, skin and intestines and other body parts.

Lymphomas are often divided into two groups: Hodgkin's disease and non-Hodgkin's lymphoma. The two diseases differ in that Hodgkin's disease is more commonly seen in younger people than non-Hodgkin's lymphoma and is distinguished by the presence of Reed-Sternberg cells. This page discusses "Hodgkin's disease."

Each year in New York State approximately 300 men and 275 women are diagnosed with Hodgkin's disease. Approximately 50 men and 50 women die from this disease each year in New York. Nationally, the incidence of Hodgkin's disease has not changed much over the past few years. However, death rates from this disease have decreased by 60% since the early 1970's because of advances in treatment.

Who gets Hodgkin's disease?

Hodgkin's disease affects more men than women and can occur in both children and adults. It is more common in 2 age groups: early adulthood (ages 15-40, usually between 25-30) and late adulthood (after age 55). About 10%-15% of cases are diagnosed in children 16 years of age and younger.

What causes Hodgkin's disease?

At this time, scientists do not know exactly what causes Hodgkin's disease. Individuals who have had infectious mononucleosis (sometimes called "mono") have a higher risk for this disease. However, only about half of the individuals with Hodgkin's disease have had infectious mononucleosis. People with depressed immune systems, such as those who have had organ transplants and individuals with HIV/AIDS, have an increased risk of getting Hodgkin's disease. Occupational studies have shown an increased risk among woodworkers, and individuals exposed occupationally to herbicides, pesticides and other chemicals, although a specific chemical has not been identified.
What should people know about cancer of the kidney and renal pelvis?

The kidneys are two reddish-brown organs, shaped like beans, located above the waist on each side of the spine. The renal pelvis is the inner, curved part of the kidney where urine collects. The kidneys filter blood and produce urine to remove wastes from the body. Urine collects in the renal pelvis and then moves down the ureters to the bladder, where it is stored. The kidneys also assist in controlling blood pressure and forming red blood cells.

Each year in New York State more than 1,150 men and 750 women are diagnosed with cancer of the kidney and renal pelvis. More than 400 men and 275 women die from this disease each year in New York State.

Who gets cancer of the kidney and renal pelvis?

Cancer of the kidney and renal pelvis is more common in older people and occurs more often in men than in women. The risk of getting kidney cancer increases with age, most often occurring in people over the age of 50. However, about 40 children are diagnosed with kidney cancer each year in New York State. Most of them are diagnosed with Wilm's Tumor, the kidney cancer most common in children.

What causes cancer of the kidney and renal pelvis?

At this time, scientists do not know exactly what causes cancer of the kidney and renal pelvis. It is known that some types of kidney cancer are more common in people with certain genetic disorders (von Hippel-Lindau disease and some others) and in people with a family history of kidney cancer. Cancer of the kidney and renal pelvis is also more common in urban, industrialized areas.

Research also suggests that people who smoke are twice as likely to develop cancer of the kidney and renal pelvis as nonsmokers. In addition, the longer a person smokes, the higher their risk is of developing this disease. If a person quits smoking, their risk decreases over time. About 25% to 30% of cancers of the kidney and renal pelvis are related to smoking.

Studies also suggest that coke oven workers in steel plants and workers exposed to asbestos or cadmium may have an increased risk for getting cancer of the kidney or renal pelvis. Other studies indicate that radiation therapy for disorders of the uterus, exposure to thorotrust (a radioactive substance used in the 1920s), and heavy and long-term use of the drug phenacetin (a pain killer no longer used in the United States) may be associated with cancer of the kidney and renal pelvis. People who are on dialysis for chronic kidney failure may also have an increased risk of developing this disease.

What does it mean when something “is associated with” cancer of the kidney and renal pelvis?

It means that there is a link between the two, but there is no proof of cause and effect. More research needs to be done before we know for certain.