

Name: _____ Date: _____ Period: _____

Read the article below. Then graph "Skin Cancer Cases" vs. "Time in Years" and answer the questions.

"Skin cancer hits young" BY DELTHIA RICKS August 10, 2005 Newsday.com

The incidence of two forms of non-melanoma skin cancer has tripled among people younger than 40 - particularly women - an increase scientists attribute to tanning's continued allure and Earth's depleting ozone layer.

Researchers from the Mayo Clinic in Minnesota say rates of basal and squamous cell carcinomas have risen dramatically over the past quarter century, despite repeated public health messages about the importance of sunscreen and protective clothing. The two cancers normally are seen in people older than 50. On rare occasions, doctors said yesterday, the cancers have been diagnosed in teens and preteens.

"This has been evolving over time, and it has just gotten to the point where it has hit our radar screen," said Dr. Leslie Christenson, a dermatologic surgeon at the Mayo Clinic whose study is reported in today's Journal of the American Medical Association. "Parents are good about putting sunscreen on children, but as children reach their adolescent years, parents are no longer allowed to do that."

She and her team examined the health records of 500 people living in Olmsted County, Minn. She said the population is mostly white and is representative of most white populations throughout the country. As a result, the findings can be extrapolated to people living elsewhere. The two malignancies, most common among people with fair complexions and red or blond hair, differ in terms of how they look and grow. Both develop on the skin's surface and tend not to spread to distant parts of the body as would melanoma, their deadlier cousin. However, if left untreated, squamous cell carcinoma can invade deeper and metastasize. All told, 800,000 new cases of basal carcinoma and 200,000 of squamous cell cancer are reported annually in the U.S. But the analysis found an alarming trend. In 2003, there were 32 cases of the cancers per 100,000 people under age 40 compared with 13 per 100,000 in the late 1970s. More than 56 percent of the cancers were in women.

Doctors not connected with the research also have noticed a recent upsurge in cases among younger people, especially women. "We used to see these cancers only in older patients," said Dr. Elizabeth Hale, a dermatologic surgeon at NYU Medical Center in Manhattan. "But we are diagnosing more of them in younger patients. And one thing we do know is the sun's ozone layer is decreasing." As a consequence, the gas no longer filters sunlight as effectively as it did.

Hale also pointed to the use of tanning salons as a major cause of basal and squamous skin cancers. Janene Rowland, 34, who moved three weeks ago from East Northport to Manhattan, knows too well the consequences of sun damage. Her father was diagnosed with one of the cancers. "He was constantly getting basal [carcinoma] scraped off his skin," she said. During a medical exam last month, a flesh-toned growth on her forehead, which she thought was a bump, was diagnosed as the cancer. "I was shocked and surprised but relieved it wasn't melanoma," Rowland said. Doctors say there is a genetic link to basal carcinoma, which tends to occur among relatives who spend too much unprotected time in the sun. Lee Cavanaugh, 32, a Manhattan interior designer, also has been treated for basal cell carcinoma. What she thought was a blemish on her temple was diagnosed as the cancer. "It never occurred to me," she said, "that it could be cancer."

| Skin Cancer Cases (Malignant Melanoma) Rates 1973-1998 | |
|---|-------------------------------|
| Year of Diagnosis | Rate (per 100,000) |
| 1973 | 6 |
| 1974 | 6.2 |
| 1975 | 6.8 |
| 1976 | 7.2 |
| 1977 | 8 |
| 1978 | 8 |
| 1979 | 8.4 |
| 1980 | 9.4 |
| 1981 | 10 |
| 1982 | 10.2 |
| 1983 | 10.4 |
| 1984 | 10.5 |
| 1985 | 13 |
| 1986 | 13.8 |
| 1987 | 13.8 |
| 1988 | 13 |
| 1989 | 14 |
| 1990 | 14.2 |
| 1991 | 15 |
| 1992 | 15.6 |
| 1993 | 15.5 |
| 1994 | 17.2 |
| 1995 | 17.8 |
| 1996 | 18.6 |
| 1997 | 18.7 |
| 1998 | 18.2 |

1. What is one way you can prevent yourself from getting skin cancer?
2. What is the time frame that this graph covers?
3. In 1981, what was the number of Skin Cancer Cases? Hint: to get the actual number of cases you need to multiply the data point by 100,000.
4. How would you describe the overall trend of the data on your graph?