

## **Skin Cancer: A Serious and Potentially Deadly Disease**

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### **Overview**

The incidence of melanoma in Colorado is nearly 30% higher than U.S. rates and continues to rise. Skin cancer is of particular concern in Colorado because of the intensity of the sun at Colorado's high altitude and because the State has 300 days of sunshine per year on average. This makes skin cancer prevention, through education and early detection, a priority for Colorado.

Skin cancers are often classified as melanoma or nonmelanoma cancers. Most skin cancers are nonmelanoma skin cancers, predominately basal cell and squamous cell carcinomas, that rarely metastasize and are highly treatable. According to the American Cancer Society (ACS), there are at least as many nonmelanoma skin cancer cases found each year as all other cancers combined (more than 1 million annually). The most serious form of skin cancer, malignant melanoma, has a high potential to metastasize and can be highly fatal. However, when diagnosed early, melanoma can be treated.

### **Nonmelanoma Skin Cancer**

The most common cancers of the skin are nonmelanoma skin cancers. There are many types of nonmelanoma skin cancer, but the two most common are basal cell carcinoma and squamous cell carcinoma.

About 3 out of 4 skin cancers are basal cell carcinomas, which begin in the lowest layer of the epidermis, called the basal cell layer. They usually begin in areas exposed to the sun and grow slowly. If not treated, basal cell cancer can grow into nearby areas and invade the bone or other tissues beneath the skin. According to the ACS, within 5 years of being diagnosed with basal cell cancer, 35% to 50% of people develop a new skin cancer.

Squamous cell carcinomas usually begin in the upper part of the epidermis and account for about 1 out of 5 skin cancers. They usually begin in areas exposed to the sun but can also begin within scars or skin ulcers elsewhere on the body. Squamous cell carcinomas are more likely to invade fatty tissues just beneath the skin, and are slightly more likely to spread to lymph nodes or distant parts of the body than are basal cell carcinomas.

### **Melanoma Skin Cancer**

Melanoma is a skin cancer that begins in melanocytes. Melanomas are much less common than basal cell and squamous cell skin cancers, but are far more serious. According to the ACS, melanomas are almost always curable in early stages, but if not detected early, they are likely to spread to other parts of the body. According to the CDC, approximately 90% of melanomas are caused by exposure to ultraviolet (UV) light or sunlight. Having dark skin can lower the risk of developing melanoma; however, it is possible for persons with dark skin to develop melanoma.



## Common Types of Melanomas

Superficial spreading melanoma – the most common of the melanomas. Appears most often on the legs of a woman and on the back and upper arms in men. If it is not recognized and treated, it eventually grows into the underlying layers of skin and may spread to other parts of the body.

Nodule or melanoma – the most aggressive of all melanomas. This type of cancer spreads so rapidly that it is often advanced by the time it is diagnosed.

Acral-lentiginous melanoma (ALM) – the most common skin cancer in people with deeper skin color, such as Blacks and Asians. ALM usually develops on the palms, soles or nails of the hands and feet.

Lentigo maligna melanoma – the least threatening form of melanoma. Lentigo maligna tends to develop on the nose or cheeks of older adults. It is most associated with long-term sun exposure.

Subungual melanoma – occurs under a nail, most often on the thumb or big toe. It appears as a discoloration that is often mistaken for a bruise. If a person develops a nail discoloration that increases in size, a referral to a dermatologist is needed.

Mucosal melanoma – this type of melanoma develops in the mucosal tissue that lines the nose, mouth, esophagus, anus, urinary track and vagina. A dentist is trained to detect melanomas that occur in a person's mouth. In addition, regular pelvic exams can help detect melanomas in the vagina.

Ocular melanoma – develops in the pigment cells in the back portion of the eye (retina). The best way to prevent ocular melanoma, is to wear glasses that block 100% of ultraviolet sunlight.

## Skin Cancer in Colorado and the U.S.

As the most common type of cancer in the United States, skin cancer is a significant public health issue. The American Cancer Society (ACS) estimated that in 2004 more than 1 million people will be diagnosed as having basal cell carcinoma and squamous cell carcinoma, and 2,300 will die. Melanoma has a much higher mortality rate and is predicted to affect 55,100 people in 2004, which would result in 7,900 deaths. Furthermore, although rates of most other cancers in the United States have been declining, the incidence of melanoma is increasing. Data from the Colorado Central Cancer Registry (CCCR, 2005) shows the 1997-2001 Colorado melanoma incidence rate for males was 33% higher than the U.S. rates and 32% higher for females.

Most recent available county data on the number of diagnosed melanomas of the skin show that during 2001-2002 males in Douglas County had a significantly higher rate of melanoma than the Colorado rate and Arapahoe County had a lower rate compared to the Colorado rate. For females, Douglas County also had a higher rate of melanoma than the Colorado rate, but not significantly so (Table 1).

**Table 1. Melanomas of the Skin – Number of Diagnosed Cancers and Average Annual Age-Adjusted Incidence Rates per 100,000 by Sex, Place, and Time Period, Colorado 2001-2002**

Colorado Central Cancer Registry (CCCR, 2005)

Place	Male 2001-2002		Female 2001-2002	
	N	Rate	N	Rate
Colorado	936	25.0	749	16.8
Adams County	63	20.9	43	12.8
Arapahoe County	83	19.3 ♦	86	16.6
Douglas County	50	37.6 ⊗	42	21.1

⊗ Rate is significantly higher than the Colorado rate.

♦ Rate is significantly lower than the Colorado rate.

### Detection

Physicians play an important role in early detection and prevention of skin cancer. Physicians should always include a skin examination with every routine visit and educate their patients on how to conduct self-examinations. According to the Mayo Clinic, the first sign of melanoma is often a change in an existing mole or the development of a new, unusual looking growth on the skin. To detect melanomas or other skin cancers, use the ABCD skin self-examination guide, adapted from the American Academy of Dermatology. This is available at the Cancer Research Institute website: <http://www.cancerresearch.org/melanomabook.html>.

**A** = Asymmetry: Melanoma lesions are typically irregular in shape (asymmetrical); benign (noncancerous) moles are typically round (symmetrical).

**B** = Border: Melanoma lesions often have irregular borders (i.e., ragged or notched edges); benign moles have smooth, even borders.

**C** = Colors: Melanoma lesions often contain many shades of brown or black; benign moles are usually a single shade of brown.

**D** = Diameter: Melanoma lesions are often more than 1/4 inch or six millimeters in diameter (about the size of a pencil eraser); benign moles are usually less than 1/4 inch or six millimeters in diameter.

**What else to watch for**

Other suspicious changes in a mole may include:

- Scaliness
- Itching
- Change in texture-for instance, becoming hard or lumpy
- Spreading of pigment from the mole into the surrounding skin
- Oozing or bleeding

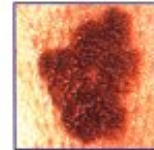
Source: American Academy of Dermatology

**Benign**

**Malignant**



Symmetrical



Asymmetrical

**Asymmetry**

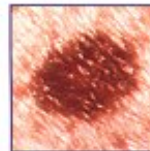


Even edges

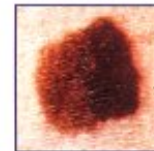


Uneven edges

**Border**

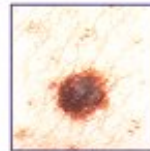


One shade

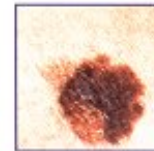


Two or more shades

**Color**



Smaller than 1/4 inch



Larger than 1/4 inch

**Diameter**

Figures are provided courtesy of Robert J. Friedman, MD.

## Prevention

An excellent resource/ tool for prevention and education is Sun Safe Colorado <http://www.sunsafecolorado.com/>, a statewide comprehensive skincare prevention program funded by the Colorado Department of Public Health and Environment. Sun Safe Colorado's major goals are: 1) To teach and motivate adults in Colorado to practice sun protection for themselves and for their children and thus avoid ultraviolet (UV) overexposure and sunburn and; 2) To teach and motivate Coloradoans to perform regular skin self-examinations in order to detect, diagnose, and treat skin cancers early. Skin cancer is easily prevented by reducing ultraviolet radiation (UVR) exposure, wearing protective clothing, playing in the shade between 10:00am to 4:00pm, using sunscreen and lip balm with an SPF of 15 or greater, staying out of tanning beds, and wearing sunglasses with 99% to 100% UV absorption to provide optimal protection for the eyes and the surrounding skin.

**A list of notifiable diseases in Colorado is available at: <http://www.cdphe.state.co.us/dc/Medlist.pdf>. Please know that upon receiving a report of any of these diseases, the public health department is likely to contact your patient to assess exposure and put appropriate control measures in place. If for some reason you would not like us to contact your patients, please let us know.**

**For more information**, please contact your state or local health department:

Tri-County Health Department  
(303) 220-9200 / After-hours pager (303) 461-2342  
[www.tchd.org](http://www.tchd.org)

Colorado Department of Public Health and Environment, Diabetes Control and Prevention Program  
(303) 692-2580  
<http://www.cdphe.state.co.us/pp/diabetes/index.html>

## References:

American Cancer Society. [Electronic Media]. <http://www.cancer.org>, accessed 02/02/2007.

Colorado Cancer Coalition. [Electronic Media]. [http://www.coloradocancercoalition.org/pdfs/cancerPlan2005\\_2010.pdf](http://www.coloradocancercoalition.org/pdfs/cancerPlan2005_2010.pdf), accessed 02/02/2007.

Colorado Central Cancer Registry, *Cancer in Colorado 1992-2002*, [Electronic Media]. <http://www.cdphe.state.co.us/pp/cccr/1992-2002/CancerInColorado9202WEB.pdf>, accessed 02/02/2007.

MayoClinic – Tools for healthier lives. (2006). Melanoma Signs and Symptoms. [Electronic Media], <http://www.mayoclinic.com/health/melanoma/DS00439/DSECTION=2>, accessed 02/05/2007.

National Cancer Institute, *SEER Cancer Statistics Review 1975-2003*. [Electronic Media]. [http://seer.cancer.gov/cgi-bin/csr/1975\\_2003/search.pl#results](http://seer.cancer.gov/cgi-bin/csr/1975_2003/search.pl#results), accessed 03/28/2007.

Task Force on Community Preventive Services. (2004). Recommendations to Prevent Skin Cancer by Reducing Exposure to ultraviolet Radiation. *American Journal of Preventive Medicine*, 27 (5): 467-470.

U.S. Cancer Statistics Working Group, *United States Cancer Statistics: 1999-2003 Incidence and Mortality Web-based Report*. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; 2007. [Electronic Media]. [www.cdc.gov/uscs](http://www.cdc.gov/uscs), accessed 06/25/2007.

### Selected Diseases by Month of Report Adams, Arapahoe, and Douglas Counties May 2007

