



Cutaneous Cancers

Patient Education on Skin Cancers

Cutaneous Squamous Cell Carcinoma

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Epidemiology

Cutaneous squamous cell carcinoma (cSCC) is the second most common type of skin cancer following basal cell carcinoma (BCC). According to the American Cancer Society there are over 1 million new cases of cSCC diagnosed in the United States per year. Males are more than twice as likely as females to develop cSCC, and the most common in those 60 years or older. Like BCC the highest rates in the United States (US) are in those states near the equator. The highest rates in the world occur in Australia. All of these geographic predilections are related to increased exposure to ultraviolet (UV) radiation.

Risk Factors

Risk factors for developing cSCC are similar to risk factors for basal cell carcinoma (BCC) and can be divided into two categories: genetic predisposition and environmental exposure.

1. Genetic Predisposition

- a. Some people are born with genetic medical conditions that increase the likelihood of developing cSCC. These include Xeroderma Pigmentosum, Albinism, Epidermolysis Bullosa, and Porokeratosis.
- b. Fair skin is another risk factor. Skin tone can be classified by the Fitzpatrick scale; those with lower numbers are at higher risk for cSCC.

Fitzpatrick Skin type	Typical features	Tanning ability
I	Pale white skin, blue/green eyes, blond/red hair	Always burns, does not tan
II	Fair skin, blue eyes	Burns easily, tans poorly
III	Darker white skin	Tans after initial burn
IV	Light brown skin	Burns minimally, tans easily
V	Brown skin	Rarely burns, tans darkly easily
VI	Dark brown or black skin	Never burns, always tans darkly

2. Environmental Exposure

Ultraviolet (UV) light exposure from both natural (sunlight) and artificial (tanning beds) is the major risk factor for developing cSCC. Interaction with ionizing radiation and certain chemicals, such as arsenic, can also increase risk. Patients with weakened immune systems are also at higher risk for developing cSCC.

3. Premalignant Conditions – Solar Keratosis

Solar Keratosis is a premalignant lesion (also known as “pre-cancer”) that can transform into a cSCC approximately 10 % of the time. Patients with 10 or more lesions are at higher risk of a premalignant lesion transforming into a malignant cSCC.



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Prevention

Sun Protection - Given the clear association between UV radiation and BCC, sun protection forms the cornerstone of primary prevention. Some guidelines for keeping safe include:

- Use of broad-spectrum sunscreen with an SPF of 30 or higher
 - Long-sleeved shirts and wide-brimmed hats
 - Wearing sunglasses with UV protection
- Avoiding sun exposure during 10am – 4pm (highest UV concentration)

Treatment

1. Topical treatments

- Liquid Nitrogen: “Freezing” of concerning areas.
- Curettage & Diathermy: Minor procedures to remove the skin cancer cells.
- 5-fluorouracil (5-FU): This may have a role for very superficial cSCC.

2. Surgery – Gold Standard

In general, surgical management of SCC is more aggressive than for BCC, as it has a greater potential for local recurrence and spread to regional lymph nodes. cSCC < 2cm in diameter and that are present on the neck will be adequately excised with a 4mm margin of normal tissue in 95%. Lesions > 2cm and that are present on the central face, scalp and ears may require margins up to 10mm of normal skin to achieve similar control. Overall satisfactory primary excision will generally result in a high rate of cure greater than 90%. Depending on the size and location of cSCC within the head, neck, and face, your surgeon may recommend removal of enlarged lymph nodes in the neck. If no lymph nodes are enlarged, he/she may recommend sampling the lymph nodes with a procedure called a sentinel lymph node biopsy.

3. Radiation Therapy

Overall can be a useful alternative to surgery for the elderly or medically unfit patients. Radiation is also commonly used as additional treatment after surgery for high risk tumors. Radiation is usually used after surgery for cSCC that has spread to nearby lymph nodes in the neck or parotid gland. It is also commonly used when aggressive features are noted microscopically on the primary tumor, including extranodal extension, close margins and perineural invasion.

4. Chemotherapy

Systemic Treatment - Cisplatin based treatments are commonly used (based on its use in other sites), but agents that target the epidermal growth factor receptor (EGFR) such as cetuximab may also play a role. Checkpoint inhibitor immunotherapy is approved for patients who cannot have curative surgery or radiation therapy.