

## Quantifying the Risk of Second Primary Melanoma in California, 2000-2015

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Since transitioning to the Research Unit, I have been exploring the risk of being diagnosed with a second primary melanoma. As many in the data collection realm know, it seems quite common to come across a patient with multiple diagnoses of melanoma. My inspiration for conducting this research came from a conversation I had with a dermatologist while doing data collection. This doctor expressed a need for material to give her patients regarding their continued risk of melanoma after their initial diagnosis. She was having issues getting her patients to return for skin examinations after being diagnosed and wanted something that explained the patient's increased risk of subsequent melanomas in the hope that they would return for examinations every 3 to 6 months (the current standard set by the American Academy of Dermatology). In addition to quantifying risk in the population, a main goal of this research was to create a pamphlet that could be used by dermatologists to help them educate patients in their daily practice.

**Background:** Cutaneous melanoma is a leading contributor to the cancer burden in the state of California, ranking 6<sup>th</sup> among all malignancies in terms of incidence. Melanoma patients tend to have some of the best survival of any cancer type as melanoma in its early stages is highly curable. Overall 5- and 10-year survival for people with melanoma are 92% and 89%, respectively. Because melanoma has relatively high survival compared to other, more lethal cancer types, melanoma survivors are unique in their susceptibility to subsequent malignancies.

**Purpose:** To quantify the risk of second primary melanoma in California, and to create material to be utilized by dermatologists in their treatment of patients.

**Methods:** Patients with a first primary malignant melanoma of any age were identified (n=88,860), of which 3,901 (4.4%) developed a second primary melanoma between 2000-2015. Standardized incidence rates (SIR) were calculated to estimate risk of being diagnosed with a subsequent melanoma after an initial melanoma diagnosis. SIR can be interpreted as a proxy for relative risk and calculates the observed (O) number of cases over the expected (E) number of cases in the standard US population.

**Results:** Preliminary findings show that melanoma patients have an 11.35-times greater risk of being diagnosed with a second primary melanoma compared to the general population (O/E, 11.35, 95% CI 11.02-11.70). The risk was highest within 2-11 months of diagnosis, with an 18.60-times greater risk of being diagnosed with a subsequent melanoma. Risk was greatest for young (age 0-29), men, those with tumors of the head and neck or lower limb sites, and patients with a histologic type of nodular melanoma.

**Implications:** These findings provide an estimate of risk of being diagnosed with a subsequent melanoma in California, as well as which populations and tumor characteristics hold the greatest risk. In addition, these findings can be utilized by dermatologists to emphasize the importance of skin examinations and follow-up procedures after an initial melanoma diagnosis.