Incidence of Pediatric Melanoma

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Incidence of Pediatric Melanoma
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Background & Significance
- Malignant melanoma is a form of cancer that affects pigment producing cells of the skin called melanocytes.
- Malignant tumors develop when ultraviolet radiation obtained from sunshine or tanning beds damage skin cells and is not repaired and then triggers genetic defects known as mutations which lead to rapid multiplications of skin cells.
- Risk factors for adult melanomas are well understood, whereas due to the rarity of pediatric melanomas, the risk factors have not been established.
- Over the last 40 years the number of new melanoma cases is not only increasing in adults, but also in children.
- Accounting for only 0.7% of all melanoma cases, the rate of pediatric melanoma in males and females ages 1 to 19 has increased by 2% per year since 1973.

Methodology
- Databases searched include, CINAHL, PubMed, and Science Direct.
- Key terms: Pediatric and Melanoma
- The Health Belief Model by Irwin Rosenstock guided the literature review as a theoretical framework.

Purpose
- To analyze the trends of pediatric melanoma and help identify and mediate the risk factors
- Evaluate the trends based on gender, age, and primary site of the cancer.
- Provide a base to educate providers and parents on the risk factors associated with pediatric melanoma to decrease occurrence in this population.

Research Questions
1. Are the rates of melanoma in children ages birth to 19 increasing?
2. What is the cause for the increase in pediatric melanoma?
3. If rates are increasing, what interventions can be put into place to decrease the incidence?

Traditional ABCDE Detection Criteria in Adults
- A-asymmetry
- B-border irregularity
- C-color variegation
- D-diameter > 6mm
- E-evolution

Proposed Modified ABCD Detection Criteria in Children
- A-amelanotic
- B-bleeding, bump
- C-color uniformity
- D-de novo, any diameter

Discussion
- Between the years 1988 and 2007 there were a total of 1,447 patients less than 20 years of age diagnosed with melanoma.
- Of those 1,447 patients, 1,295 were > 10 years old, and 152 were ≤ 10 years old.
- Between the years 2000 and 2010 there were a total of 1,185 patients less than 20 years of age diagnosed with melanoma.
- It is unknown if the incidence of pediatric melanoma has increased or decreased since 2010.
- Most cases of melanoma were diagnosed in children ≥ 10 years of age.
- Pediatric melanomas are poorly characterized and do not necessarily follow the conventional “ABCDE” criteria as do melanomas diagnosed in adults.

Nursing Implications
- Patient education is the nurse’s biggest role in preventing pediatric melanoma.
- There are many factors that can lead to the development of a melanoma, but the more the individual knows about prevention, the better.
- Nurses can implement sun safety in the school curriculum. Nurses can also remind students to reapply sunscreen before going outside for gym class or recess.
- The following should be taught to parents:
  - The best sunscreen to use is broad-spectrum, SPF 30 or greater, and is water resistant.
  - Sunscreen should be reapplied every two hours, and after swimming.