A systematic review of the link between childhood obesity and adult cancers

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**Introduction/Background**

- Overweight, obesity, & cancer has steadily increased in the United States
- Four cancer types have increased: Non-Hodgkin lymphoma\(^1\), Renal cell carcinoma\(^2\), Thyroid cancer\(^3\), Esophageal adenocarcinoma\(^4\)
- A link between childhood obesity and cancer later in life may exist

**Methods/Measurements**

- **Databases** searched during fall 2014
  - PubMed
  - Cinhahl
  - Cochrane
- **Search terms**
  - Pediatric or childhood obesity
  - Adult cancer
- **Inclusion criteria**
  - Peer-reviewed
  - Published within the last 10 years
  - English only

**Results/Findings**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Positive association</th>
<th>Negative association</th>
<th>Limited association</th>
<th>No association</th>
</tr>
</thead>
<tbody>
<tr>
<td>Childhood overweight obesity</td>
<td>Non-smoking-related, postmenopausal breast, premenopausal breast</td>
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<tr>
<td>Either in childhood</td>
<td>Thyroid, colorectal adenoma in women</td>
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<td>Prostate</td>
<td></td>
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<tr>
<td>Adolescent overweight in men</td>
<td>Renal cell carcinoma in men, colon</td>
<td>Rectal in men</td>
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<tr>
<td>Adolescent obesity</td>
<td>Esophageal squamous cell carcinoma in women</td>
<td>Breast</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Either in adolescence</td>
<td>Urogenital, skin, lung, esophagus, all cancers</td>
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</tr>
<tr>
<td>All of the above</td>
<td>Non-Hodgkin lymphoma</td>
<td>Premenopausal breast, breast</td>
<td>Prostate, postmenopausal breast</td>
<td></td>
</tr>
</tbody>
</table>

**Breast Cancer**
- **Mixed results**
- Strongest evidence: inverse relationship especially with premenopausal type\(^5\)

**Colorectal Cancer**
- Strong relationship in women and men\(^6\)

**Renal Cancer**
- Strong relationship in men\(^2\)

**Non-Hodgkin’s Lymphoma**
- Strong relationship in women and men\(^7\)

**Thyroid Cancer**
- Strong relationship in women and men\(^5\)

**Other Findings**
- Some cancers have stronger relationships with overweight or obesity during different times during youth\(^7\)
- Risk of cancer-related death increases 8% with every 1 SD increase in BMI\(^7\)

**Discussion**

- Efforts for early childhood obesity prevention are paramount
- Strong evidence of a link between childhood obesity and adult-related cancers
  - Relationship may differ by gender
  - Stronger link between certain cancers over others

**References**