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# Types of Cancers That Develop in Adolescents

Cancer starts when cells in the body begin to grow out of control. Cells in nearly any part of the body can become cancer, and can then spread to other areas of the body. To learn more about cancer and how it starts and spreads, see What Is Cancer?<sup>1</sup>

For statistical purposes, cancers in adolescents are often thought of as those that start between the ages of 15 and 19. Cancer is not common in teens, but a variety of cancer types can occur in this age group, and treating these cancers can be challenging for a number of reasons.

Most cancers occur in older adults. <u>Cancers that start in childhood</u><sup>2</sup> (before age 15) are much less common. The types of cancers that develop in children are often different from the types that develop in adults. Childhood cancers are often the result of DNA (gene) changes in cells that take place very early in life, sometimes even before birth. Unlike many cancers in adults, childhood cancers are not strongly linked to lifestyle or environmental risk factors.

The types of cancers that occur in adolescents (ages 15 to 19) are a mix of many of the types that can develop in children and adults. The types of cancers seen in adolescents are not unique to this age group, but the most common types are different from those most common in young children or adults.

## Lymphoma

Lymphomas are cancers that start in immune system cells called *lymphocytes*. These cancers most often start in lymph nodes or in other lymph tissues, like the tonsils or thymus (a small organ in front of the heart). They can also affect the bone marrow and other organs. Symptoms depend on where the cancer starts and can include weight

loss, fever, sweats, tiredness, and lumps (swollen lymph nodes) under the skin in the neck, armpit, or groin.

The 2 main types of lymphoma are:

- Hodgkin lymphoma<sup>3</sup> (Hodgkin disease)
- Non-Hodgkin lymphoma<sup>4</sup>

Both types can occur in adolescents.

**Hodgkin lymphoma** is most common in 2 age groups: early adulthood (ages 15 to 40, but usually people in their 20s) and late adulthood (after age 55). This type of cancer is similar in all age groups, including which types of treatment work best.

**Non-Hodgkin lymphoma** (NHL) is less common than Hodgkin lymphoma in teens, but the risk of NHL goes up as people get older. There are many types of NHL. Some of the types seen more often in adolescents tend to grow quickly and require intense treatment, but they also tend to respond better to treatment than NHL in older adults.

### Leukemia

Leukemias are cancers of the bone marrow and blood. They are the most common cancers in children, but they can occur at any age. In fact, most leukemias occur in older adults.

Leukemias in adolescents are usually acute (fast growing) types such as <u>acute lymphocytic leukemia</u><sup>5</sup> (ALL) or <u>acute myeloid leukemia</u><sup>6</sup> (AML). Leukemia can cause tiredness, weakness, pale skin, bleeding or bruising, fever, weight loss, bone and joint pain, and other symptoms. Acute leukemias can grow quickly, so they need to be treated as soon as they are found.

The outlook for most acute leukemias tends to be better the younger a patient is.

## Thyroid cancer

The risk of <u>thyroid cancer</u><sup>7</sup> tends to go up as people get older, but it's found more often in younger people than most other adult cancers. It's also much more common in young women than in young men.

The most common symptom of thyroid cancer is a lump in the front of the neck. Most

thyroid lumps are not cancer, but it's important to have them checked to be sure. Other symptoms of thyroid cancer can include pain or swelling in the neck, trouble breathing or swallowing, and voice changes.

The chance of curing thyroid cancers is usually very good.

## **Brain and spinal cord tumors**

There are many types of brain and spinal cord tumors, and the treatment and outlook for each is different.

In children, most <u>brain tumors</u><sup>8</sup> start in the lower parts of the brain, such as the cerebellum (which coordinates movement) or brain stem (which connects the brain to the spinal cord). Adults are more likely to develop <u>tumors in upper parts of the brain</u><sup>9</sup>. Tumors in adolescents can occur in either area.

**Spinal cord tumors** are less common than brain tumors in all age groups. These tumors can cause numbness, weakness, or loss of coordination in the arms or legs (usually on both sides of the body), as well as bladder or bowel problems.

#### **Testicular cancer**

<u>Testicular cancer</u><sup>10</sup> most often develops in young men. About half of testicular cancers occur in men between the ages of 20 and 34, but it can occur at any age, including in teens.

Most often, the first symptom of testicular cancer is a lump on the testicle, or the testicle becomes swollen or larger. Some testicular tumors might cause pain, but most of the time they do not. It's important to have any lumps checked by a doctor as soon as possible so that the cause can be found.

In general, the outlook for testicular cancers is very good, and most of these cancers can be cured.

## Sarcoma (bone or soft tissue cancer)

Sarcomas are cancers that start in connective tissues such as muscles, bones, or fat cells. There are 2 main types of sarcoma:

Bone sarcomas

 Soft tissue sarcomas (which start in muscles, fat, blood vessels or other some body tissues)

Sarcomas can develop at any age, but some types occur most often in older children and teens.

**Bone sarcomas:** The 2 most common types of bone cancer, <u>osteosarcoma</u><sup>11</sup> and <u>Ewing sarcoma</u><sup>12</sup>, are most common in teens. They often cause bone pain that gets worse at night or with activity. They can also cause swelling in the area around the bone.

Osteosarcoma usually starts in areas where the bone is growing quickly, such as near the ends of the leg or arm bones. The most common places for Ewing sarcoma to start are the pelvic (hip) bones, the chest wall (such as the ribs or shoulder blades), or in the middle of the leg bones.

**Soft tissue sarcomas:** These cancers can start in any part of the body, but they often develop in the arms or legs. Rhabdomyosarcoma, <sup>13</sup> a cancer that starts in cells that normally develop into skeletal muscles, is most common in children younger than 10, but it can also develop in teens and adults. Most other types of soft tissue sarcomas <sup>14</sup> become more common as people age. Symptoms depend on where the sarcoma starts, and can include lumps (which might or might not cause pain), swelling, or bowel problems.

#### Melanoma

Although melanoma<sup>15</sup> is more likely to occur in older adults, it is also found in people younger than 30 (especially younger women). Melanoma that runs in families can occur at a younger age.

The most important warning sign for melanoma is a new spot on the skin or a spot that's changing in size, shape, or color. A spot that looks different from all of the others on your skin can also be a warning and should be checked by a doctor.

The chance of curing a melanoma is often very good if it's found and treated early. But if left alone, it can often grow and spread quickly, which can make it much harder to treat.

#### **Ovarian cancer**

Overall, <u>ovarian cancer</u><sup>16</sup> is much more common in older women. But some types of ovarian cancers, known as *germ cell tumors*, are more common in teens and young

#### women.

Early ovarian cancer usually does not cause symptoms, but some teens and young women might feel full quickly when eating or have abnormal bloating, belly pain, or urinary symptoms. If such symptoms last more than a few weeks, they should be checked by a doctor.

## **Hyperlinks**

- 1. www.cancer.org/treatment/understanding-your-diagnosis/what-is-cancer.html
- 2. www.cancer.org/cancer/cancer-in-children.html
- 3. www.cancer.org/cancer/hodgkin-lymphoma.html
- 4. www.cancer.org/cancer/childhood-non-hodgkin-lymphoma.html
- 5. <u>www.cancer.org/cancer/acute-lymphocytic-leukemia.html</u>
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- 12. www.cancer.org/cancer/ewing-tumor.html
- 13. www.cancer.org/cancer/rhabdomyosarcoma.html
- 14. <u>www.cancer.org/cancer/soft-tissue-sarcoma.html</u>
- 15. <u>www.cancer.org/cancer/melanoma-skin-cancer.html</u>
- 16. www.cancer.org/cancer/ovarian-cancer.html

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