

# OsteoSarcoma



Sarcomas are rare types of cancer that develop in the supporting tissues of the body. There are two main types: Bone Sarcomas and Soft Tissue Sarcomas. Osteosarcoma is a bone cancer which makes up about 5% of Childhood Cancers. Malignant Fibrous Histiocytoma (MFH) of the bone is a rare tumour of the bone, and is treated in the same way as osteosarcoma.

Osteosarcoma (also called osteogenic sarcoma) is the most common type of bone cancer and starts in the osteoblasts, which are the bone cells at the end of the long bones where new bone tissue forms as a young person grows.

## ***Types of Osteosarcoma include:***

- ⚠ Periosteal Osteosarcoma
- ⚠ Parosteal sarcoma of bone
- ⚠ Telangiectatic Osteogenic Sarcoma
- ⚠ Small Cell Osteosarcoma

**Comment [MH1]:** Relevance? This means nothing to parents.

Osteosarcoma is most prevalent in teenagers, and most often forms in the bones near the knees of children and teenagers or in the bones surrounding the shoulder joints.

## **Causes of Osteosarcoma**

Although a lot of research has been done into the causes of osteosarcoma, nobody has been able to pinpoint the exact cause, as with most childhood cancers. There are, however, several risk factors that have been associated with osteosarcoma, such as previous radiation therapy or anti-cancer drugs called alkylating agents.

Children carrying the hereditary retinoblastoma gene or who have other conditions such as Paget's Disease, Werner's Syndrome, Bloom's Syndrome and Rothmund-Thomson syndrome may also be at risk.

## **Signs and Symptoms**

### ***Some of the typical signs and symptoms of Osteosarcoma are:***

- ⚠ Pain in the affected bone or joint that initially comes and goes but eventually becomes more severe, especially at night.

- ⚠ Swelling over a bone or bony part of the body.
- ⚠ A bone that breaks for no apparent reason or from a minor fall or accident.

## Tests and Diagnosis

***Osteosarcoma can be diagnosed or staged using the following tests and procedures:***

- ⚠ **Physical Exam and History:** The doctor will perform a physical examination, checking your child's general health as well as checking for anything unusual or signs of cancer, and a complete medical history will be taken.
- ⚠ **MRI (Magnetic Resonance Imaging):** An MRI or nuclear magnetic resonance imaging (NMRI), is a procedure whereby a series of detailed pictures is taken of the inside of the body using a computer, a magnet and radio waves.
- ⚠ **CT scan (CAT scan):** This procedure may also be referred to as computed tomography, computerized tomography, or computerized axial tomography. A CAT scan takes a series of detailed pictures of the inside of the body from different angles, using a computer linked to an x-ray machine; a dye may also either be swallowed or injected into a vein to allow the organs and tissues to show up more clearly on the pictures.
- ⚠ **A Biopsy:** The type of biopsy that is done will depend on where the tumour is in the body as well as the size of the tumour:
  - ⚠ **Fine Needle Aspiration (FNA) Biopsy** - removal of fluid or tissue using a thin needle
  - ⚠ **Core Biopsy** - removal of tissue using a wide needle
  - ⚠ **Incisional Biopsy** - a sample of tissue is removed through an incision in the skin
  - ⚠ **Excisional Biopsy** - removal of an entire area of tissue or lump that looks abnormal

Other tests that may be done include x-rays, a complete blood count, blood chemistry studies, a bone scan, or bone marrow aspiration.

## Treatment options

***Treatment options consist of:***

- ⚠ **Chemotherapy:** The use of a combination of anti-cancer drugs to destroy or shrink cancer cells is the preferred treatment for children, and may be done prior to and after surgery.
- ⚠ **Surgery:** The tumour should be removed by a specialist orthopaedic surgeon. The type and extent of the surgery depends on the size and position of the tumour.

- ⚠ **Limb-sparing Surgery:** Most surgeons will perform limb-sparing surgery if at all possible. Limb-sparing surgery means that the bone is replaced by bone graft with bone taken from another part of the body or with a specially designed artificial part called prosthesis.
- ⚠ **Amputation:** In cases where it is not possible to just remove the cancerous portion of the affected bone, amputation of the limb may be necessary, after which prosthesis (false limb) can be fitted.
- ⚠ **Radiotherapy:** High-energy rays that destroy the cancer cells

Some of the treatment modalities may result in sequelae such as nausea, vomiting, irritation or soreness of the skin from radiation, hair loss, risk of infection, fatigue, bruising and bleeding or diarrhoea. The doctor should explain all of this to you, but if they do not, please ask them about side effects.

## **Awareness Ribbon Colour**

The awareness ribbon colour for Osteosarcoma is Yellow

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