

## Bone cancer

Bone cancer is a rare form of cancer. The human body is made of more than 200 bones. Although bone looks and feels quite hard, it contains living cells. These cells can develop tumours, or cancer. The tumour may start in the bone (primary cancer) or may start in another part of the body and spread to the bone (secondary cancer).

Our bones support our body and protect organs such as the heart and lungs. Bones are made of cells called osteocytes, osteoclasts and osteoblasts, which are bound together by a calcium-like material to give the bone its strength. Bones are filled with a spongy material called bone marrow, which makes blood cells.

### Primary bone cancer

Primary bone cancer, or cancer that starts in the bone, is quite rare. About 50 people develop bone cancer in Victoria each year. Less than one per cent of people with bone cancer have primary bone cancer. Rates for males and females are very similar.

The most common type of primary bone cancer is osteosarcoma. This cancer usually affects young adults. It can affect any bone but the arms, legs and pelvis are more commonly affected. Other less common forms of primary bone cancer include Ewing sarcoma, malignant fibrous histiocytoma and chondrosarcoma.

The causes of primary bone cancer are not known; however, adults who have Paget's disease (a bone disease) may have an increased risk.

### Secondary bone cancer

Secondary bone cancer is the most common bone cancer. It is a cancer that starts somewhere else in the body and spreads (metastasises) to the bone. The most common cancers that spread to the bone are cancers of the breast, prostate, lung, kidney and thyroid.

### Symptoms

The signs and symptoms of bone cancer include:

- Painful bones and joints – the pain is often worse at night
- Swelling of bones and joints
- Problems with movement
- Susceptibility to fractures.

Other less common symptoms can include:

- Unexplained weight loss
- Tiredness
- Fever and sweating.

Remember, bone cancer is very rare so if you have any of these symptoms, it is more likely to be caused by another condition. Always see your doctor if you have symptoms that last for longer than two weeks.

### Diagnosis

Diagnosing bone cancer involves a number of tests, including:

- **X-rays and bone scans** – to show the exact location and size of the cancer (these are always done prior to biopsy).

- **Bone biopsy** – a small sample of cells is removed from the bone and examined in the laboratory for the presence of cancer cells. If the cells are cancers, further tests may be done by a pathologist to determine the exact type of cancer.
- **Magnetic resonance imaging (MRI) scan** – similar to a CT scan but uses magnetism instead of x-rays to build three-dimensional pictures of your body. These are more commonly being used to investigate possible bone tumours.

### Treatment

Treatment options include:

- **Primary bone cancers** – most people with primary bone cancer will need a combination of different treatments. Surgery can be used to remove the cancer, surrounding bone tissue and nearby lymph nodes. In severe cases, the affected limb may need to be amputated, but this is rare. Treatment may also include radiotherapy (x-rays to target and kill the cancer cells) and chemotherapy (anti-cancer drugs). These may be given before surgery, to shrink the cancer, and/or afterwards to destroy any remaining cancer cells.
- **Secondary bone cancer** – treatment depends on the treatment for the original cancer, but usually includes chemotherapy, radiotherapy or hormone therapy. Surgery may be needed to strengthen the affected bone.

### Where to get help

- Your doctor
- Cancer Council Victoria, Information and Support Service Tel. 13 11 20
- Multilingual Cancer Information Line, Victoria – see the CCV website for contact details

### Things to remember

- Primary bone cancer starts in the bone and accounts for less than one per cent of people with bone cancer.
- Secondary bone cancer is the most common form of bone cancer and is caused by the spread of cancer cells from a cancer somewhere else in the body, such as the breast, prostate or lungs.
- Treatment options for bone cancer may include surgery, radiotherapy, chemotherapy and hormone therapy.

**This page has been produced in consultation with, and approved by:**

Cancer Council Victoria

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