



PODIATRY

# FootScope

A foot health message from  
Proactive Podiatry

## Cancers affecting the feet



Cancer can develop in any part of the body and as the disease progresses it has the ability to move from one part of the body to another. Cancers affecting the feet come in the form of cancers that originate in the feet as well as cancers that have originated in another part of the body and spread to other areas. The main types of cancers that develop in the feet are skin cancers, bone cancers and soft-tissue tumours.

### SOFT TISSUE CANCER OF THE FOOT

While the foot does not have much soft tissue, this type of cancer can still begin there. Synovial sarcoma is a type of soft-tissue tumour that often appears in the foot and leg.

It is not very common, but unfortunately it often mimics non-cancerous masses or lumps that can sometimes form in the foot, as it grows slowly and often without any pain initially. Hence it is crucial that any suspicious lump in the foot is examined and biopsied by a specialist.

### SYMPTOMS AND RISK FACTORS

Synovial sarcoma tends to occur mostly in young adults, and occurs more often in men than in women. Some inherited disorders can predispose people to this type of cancer. Previous radiation treatment and exposure to certain chemicals can increase the risk of developing a synovial sarcoma. This cancer is often slow growing, and may not cause any symptoms initially. However, if you experience any of the signs and symptoms listed below, see your podiatrist for a thorough exam.

- **Presence of an unusual lump:** development of a lump is usually the first symptom of a synovial sarcoma and the lump is often completely painless despite the seriousness of the condition.
- **Swelling:** the area around the lump may become swollen, which may cause discomfort even if the lump itself does not hurt.
- **Pain:** as the tumour grows bigger, it will press on the surrounding tissue and nerves in the foot, causing pain.
- **Decrease in range of motion:** if the tumour is close to a joint, as it gets bigger it may decrease the range of motion of the joint. Restrictions in range of motion may make it more difficult to walk and can lead to falls as the joint cannot react as it should to loss of balance.
- **Numbness:** if the tumour presses on nerves, it may cause loss of feeling in the area around the nerve.
- **Sudden growth spurt:** the lump may suddenly grow bigger, which is a big indication that all is not as it should be.

### TREATMENT

Treatment options vary depending on factors such as the age and overall health of the patient, the size and location of the tumour, and how aggressive it is.

- **Surgery:** removal of the tumour will mostly likely be the first course of treatment and removal can in many cases resolve the problem, particularly if the tumour is caught early.
- **Reconstructive surgery:** as the foot has very little soft tissue in general, removal of the tumour may reduce the function of the foot, and require reconstructive surgery to get the patient back on their feet.
- **Amputation:** amputation is extremely rare for these types of tumours and is only used as a treatment strategy in very serious cases where the cancer has spread so far that amputation is absolutely necessary.
- **Radiotherapy:** high energy X-rays may be used before, during, or after surgery to help kill the cancer cells.
- **Chemotherapy:** anti-cancer drugs may be used to kill any remaining cancer cells.
- **Lymph node removal:** as the cancer may spread to the lymph nodes, these may sometimes have to be removed also.

## BONE CANCERS OF THE FOOT

Tumours of the bone are an uncommon form of cancer in general and bone cancers of the foot are even rarer still, however the rarity of the disease can also lead to failures in seeking diagnosis and treatment. Three main types of bone cancer can occur in the foot. The most common is chondrosarcoma, which begins in the cartilage that is at the ends of bones and lines the joints. Osteosarcoma arises in the hard part of the bone. Finally, Ewing's sarcoma usually occurs in the bone, but may also develop in the soft tissue of the foot. The foot has only a small amount of soft tissue to hide a growing cancerous mass, but due to the rarity of bone cancers, the developing tumour is often misdiagnosed as other, more common ailments such as a sports injury, inflammatory arthritis, or infection.

### RISK FACTORS

**Chondrosarcoma:** this cancer is usually found in adults in their 50s and 60s, slightly more often in males than females. It can often start from pre-existing non-cancerous bone or cartilage tumours that later become malignant. There are also some inherited risk factors, passed to the child through the parents' genes. Treatment with radiation or chemotherapy for other conditions may also slightly increase the chance of developing chondrosarcoma.

**Osteosarcoma:** usually osteosarcomas develop in children and teenagers, especially during teenage growth spurts, suggesting that osteosarcoma may be related to rapid bone growth. Osteosarcomas of the foot, however, tend to be found in adults. Often, osteosarcomas are hereditary, caused by defects in certain genes. Radiotherapy raises the risk of developing the disease, as do certain pre-existing non-cancerous bone diseases.

**Ewing's sarcoma:** this cancer is most common in children and adolescents, affecting boys slightly more than girls. The sarcoma is more common in Caucasians. It is not an inherited cancer.

### TREATMENT

The course of treatment for bone cancer is tailored depending on the type of cancer, its exact location, and how aggressive it is. Surgery — removing the tumour in its entirety — is the most common option. Dramatic improvements in surgical techniques mean that most patients can avoid the removal of an entire foot, but often may require reconstructive surgery to maximise their foot function. In rare cases where the cancer has progressed, however, amputation may be required. In addition, chemotherapy (using anti-cancer drugs to kill cancer cells), and radiotherapy (using high energy X-rays to kill cancer cells) may be used in combination with surgery to help to improve outcomes and long-term mobility.

### METASTATIC TUMOURS IN THE FOOT

Metastatic cancer is cancer that has spread around the body from the point where it first started. The cancerous cells break away from the original tumour and travel via the bloodstream or bone marrow to other parts of the body. The cell type remains the same, regardless of where it spreads, so lung cancer that spreads to the foot is called metastatic lung cancer. Cancer spreading to the foot occurs most commonly from lung, colon, bladder, uterine, and kidney cancer.

### SYMPTOMS

Avoiding a delay in diagnosis is essential, as early proper treatment greatly enhances health outcomes. If you're experiencing pain in your foot or leg, or any of the other symptoms listed below, see your doctor so that a thorough exam can be performed.

**Pain:** pain at the location of the tumour is usually the first symptom reported. At first, it may be intermittent, felt only after a lot of activity, or only at night. Later it may become constant and more severe as the cancer progresses.

**Lump:** a lump on the bone or on the surrounding tissues may also be present. Keep in mind that it may be quite slow growing, so can be easily missed.

**Fractures:** bone cancer weakens the bones, and causes them to fracture easily.

**Swelling:** inflammation around a bone, especially when it is constant, is another sign of possible bone cancer.

**Loss of appetite, nausea, extreme thirst, confusion, or tiredness:** these symptoms may be due to the presence of abnormally high levels of calcium in the blood. This occurs when cancer develops in the bone, releasing calcium into the bloodstream.

### TREATMENT

Treatment will depend upon where the cancer has started and the type of primary tumour, which bones are affected and how badly they are damaged, the types of treatment already performed, and the age and overall health of the patient. Treatment options include:

**Surgery:** removing a tumour through surgery is a common option, and will often relieve metastasis symptoms quickly. Surgery can also be used to stabilise a weak or damaged bone to prevent it from breaking.

**Radiotherapy:** radiation therapy uses high-energy X-rays to locally destroy or slow the growth of cancer cells. It is most effective if only one or two metastases are present.

**Chemotherapy:** 'chemo' — the use of drugs to kill cancer cells — is a common treatment against cancer in general, and may be used to treat metastases as well. The anti-cancer drugs used will be chosen to be effective against the specific type of primary tumour.

**Bisphosphonate therapy:** this group of drugs works best for metastases that are weakening the bone. The drugs work to slow bone damage and reduce the risk of fractures, reduce bone pain, and reduce high levels of blood calcium.



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