

# Argus Orthopaedic Zone

## Bone Tumors

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### *Transforming patient information into patient understanding.*

Bone tumors are a pretty complicated area of Orthopaedic Surgery which I haven't addressed before. It is an area that is hard to understand and even harder to explain.

Nevertheless it is important for you to have at least some knowledge of bone tumors. So here goes.

### **Definition**

As with all tumors, bone tumors are either benign or malignant.

Malignant tumors can spread to other areas of the body. Benign tumors rarely do and if they do spread it is usually not life threatening.

### **Tumor Type**

Here it begins to get a bit confusing. A few important points.

- Some bone tumors both benign and malignant come from the bone structure itself.
- Bone tumors can form from cartilage tissue which can be part of the bone structure.
- Bone cysts and tumors can come from fibrous tissue.
- They can originate from the bone marrow.
- Tumors can spread to bone from other sources, breast and prostate being frequent sources.

### **Symptoms**

- Mild pain and swelling are key complaints. Never ignore this.
- Pain at night
- Fever
- "Just don't feel good" (malaise)
- Weakness, anemia

### **How I Diagnose**

- Careful history and examination
- Plain x-rays of the area are always done first
- Bone scan with radioisotope
- CT (CAT scan) is excellent to diagnose bone changes
- MRI is helpful in seeing the surrounding tissue and bone marrow
- Chest x-ray to look for areas of spread to the lungs
- A variety of different laboratory tests
- A biopsy of the affected area might be required.

### **Few Common Types**

- Benign Tumors  
Bone cyst in children and teens

- Cartilage tumors inside the bone in children and teens
- Fibrous tumors inside bone
- Giant Cell Tumors
- Osteoid osteoma
- Malignant Tumors
  - Myeloma (older than 40)
  - Osteogenic sarcoma (in children and teens)
  - Fibrosarcoma (adults)
  - Metastatic spread from breast or prostate

There are countless more tumors and lesions which are much more unusual and rare, but the ones listed above are ones you may have heard of.

### **Treatment**

- Benign
  - It depends on the diagnosis as you would expect. Simple observation is appropriate for many benign cystic lesions if the diagnosis is clear on proper evaluation.
  - In other benign lesions surgery is needed to prevent fracture of the bone through the weakened area.
- Malignant
  - In malignant tumors there is a wide range of treatment. Many of the treatments are often combined.
    - Extensive surgical removal
    - Amputation
    - Radiation
    - Chemotherapy
    - Immunotherapy

### **In Closing – The Key**

It is an extremely complicated and ever changing part of my specialty of Orthopaedic Surgery. While I would refer some of these problems to much larger centers, I need to be very knowledgeable about their diagnosis. To detect bone tumors and cystic lesions in bones is the key to their management, which can save the person's life or prevent fractures and great disability.

These very serious problems in most cases come to me first and I always want to diagnose them correctly as soon as possible.

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