



“बेटी बचाओ, बेटी पढ़ाओ”

**JAYOTI VIDYAPEETH WOMEN'S UNIVERSITY, JAIPUR**  
**FACULTY OF HOMOEOPATHIC SCIENCE**

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	Teaching Methodology of Examination of Bone and Joint Injuries Part 2
<b>Program</b>	: BHMS 3 <sup>rd</sup> Year
<b>Course</b>	: Surgery Practical
<b>Session</b>	: Examination of Bone and Joint Injuries Part 2

**Academic Day starts with –**

- Greeting with saying ‘**Namaste**’ by joining Hands together following by 2-3 Minutes Happy session, Celebrating birthday of any student of respective class and **National Anthem**

**Lecture Starts with-**

**Topic to be discussed today-** Today we will discuss about Demonstration of X-Ray in detail

**Examination of Bone and Joint Injuries**

When a person has a bone fracture, one of the first things a person will want to know is how bad it is. To determine the severity and treatment/recovery time, doctors will typically perform an X-ray. In some cases, they may use other imaging , particularly it is a pathologic fracture. This is a type of break caused not by trauma but as a result of a medical condition which weakens the bone.<sup>1</sup>

As a patient, you have the right to use to fully understand both your diagnosis and treatment options. To do so, you would be well served to understand the terminology used to describe a fracture.

### **Describing the Fracture Location**

The anatomical location of a fracture is about more than just where the break is; it describes the structural characteristic of the break. To this end, doctors will typically use the following descriptive terms:

- **Diaphyseal:** the shaft (center) of the bone
- **Metaphyseal:** located toward one end of the bone but not at the joint
- **Peri-articular:** located on the joint surface at the end of the bone
- **Intra-articular:** a fracture which extends into the joint through the cartilage<sup>2</sup>
- **Proximal:** located closer to the center of the body at the upper end of the bone
- **Distal:** located further from the center of the body at the far end of the bone

Fractures that involve the joint surface are usually treated aggressively as imperfections in the alignment can lead to accelerated arthritis in the joint.

### **Describing Fracture Alignment**

The misalignment of a fracture tells us just how far out of position the bone has shifted. Doctors will describe this in the following terms:

- **Non-displaced:** where the bone is fractured but in perfect alignment
- **Minimally displaced:** where there is a slight shift in the position, usually not significant
- **Displaced:** where the bone has significantly shifted, the degree of which is described in percentages

- **Depression:** an intra-articular (joint) fracture which has been pushed out of alignment with the bone
- **Angulated:** the angle by which the bones are misaligned, again described in degrees
- **Shortening:** an effect caused when the surrounding muscles pull the bone ends together tightly, literally shortening the bone<sup>3</sup>

### Diagnosing Severe Fractures

There are certain terms doctors will use to describe fractures caused by a high-impact trauma such as a car accident or major fall. They include:

- **Comminution:** a break or splinter of the bone into more than two fragments (colloquially referred to as a "shattered" bone)
- **Segmented:** a bone break in which several large fragments separate from the main body of the bone

### Diagnosing Pathological Fractures

Pathologic fractures are caused when a bone weakens due to a disease that either displaces bone matter or interferes with the normal metabolism (remodeling) of a bone. Doctors will often describe these abnormalities as follows:

- **Osteopenia:** a condition where the body doesn't make new bone as quickly as it reabsorbs old bone, oftentimes the result of a progressive disease like osteoporosis<sup>4</sup>
- **Cystic:** characterized by the formation of cysts as can happen with bone cancer and certain non-cancerous infections
- **Lesion:** an unspecified abnormality which may be caused by bone damage or simply a past bone injury

## Monitoring Bone Repair

Broken bones usually show signs of healing within a few weeks of an injury.<sup>5</sup> Doctors will describe this in terms that evaluate the progress of the repair. These include terms such as:

- **Fracture Callous:** new bone growth around a break considered a good sign that the bone fragments are reuniting
- **Consolidation:** another term used to describe the normal process of bone repair due to remodeling
- **Delayed-union on Nonunion:** when the broken bone is not healing properly due to poor circulation, infection, inadequate stabilization, or other causes



## **LIBRARY REFERENCES**

From: M. L. Tyler Homoeopathic Library

1. Manipal Manual of Surgery- Third Edition. Author- K. Rajgopal Shenoy
2. Undergraduate Surgery – Third Edition. Author- A K Nan
3. Clinical medicine- Das

**Correlation with Ancient Literature- in progress**

**Review of Literature- in Process**

**Next Topic- Dressings and Plaster**

**Academic Day ends with  
National song 'Vande Mataram'**