

# Garden Classification of Neck of Femur Fractures

## Life in Orthopaedics Resource Hub

### Introduction

The Garden Classification is the most commonly used classification system for intracapsular fractures of the neck of femur. It is based on the degree of displacement seen on radiographs and helps guide management and predict the risk of avascular necrosis (AVN).

### Garden Type I

Incomplete or valgus impacted fracture.

- Stable fracture pattern
- Lowest risk of AVN
- Often treated with internal fixation

### Garden Type II

Complete fracture without displacement.

- Fracture line traverses the entire neck
- Alignment preserved
- Usually managed with internal fixation

### Garden Type III

Complete fracture with partial displacement.

- Loss of alignment begins
- Increased risk of AVN and non-union
- Treatment depends on age and physiological status

### Garden Type IV

Complete fracture with complete displacement.

- No continuity between head and neck fragments
- Highest risk of AVN
- Arthroplasty commonly indicated in elderly patients

### Clinical Significance

Garden I & II = Undisplaced Fractures

Garden III & IV = Displaced Fractures

### Why Does Displacement Matter?

The blood supply to the femoral head travels through retinacular vessels. Increasing displacement increases the risk of vascular disruption, AVN, and non-union.

### High-Yield Viva Questions

1. What is the Garden Classification?
2. Which Garden types are displaced?
3. Which type has the highest risk of AVN?
4. Why is AVN common in intracapsular fractures?
5. When is arthroplasty preferred?

### **NEET PG / INICET Pearl**

Garden III and IV fractures are considered displaced fractures and carry a significantly higher risk of AVN and non-union compared to Garden I and II injuries.

### **Memory Trick**

Garden 1 → Impacted

Garden 2 → Complete but Aligned

Garden 3 → Partially Displaced

Garden 4 → Fully Displaced Think: 1 → 4 = Increasing Displacement, Increasing AVN Risk.

### **Life in Orthopaedics Take Home Message**

The most important distinction in Garden Classification is not the fracture line—it is whether the fracture is displaced. Displacement determines blood supply, treatment strategy, and prognosis.

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