

# Harborview Illustrated Tips And Tricks In Fracture Surgery

Fracture surgery is a complex and demanding field that requires a deep understanding of anatomy, biomechanics, and surgical techniques. Harborview Medical Center, a nationally renowned trauma center in Seattle, Washington, has developed a wealth of innovative tips and tricks that have revolutionized the way fracture surgeons approach their work. This comprehensive guide will explore these innovative techniques, providing orthopedic surgeons with valuable insights to enhance their practice and improve patient outcomes.

## Preoperative Planning and Assessment

### 1. Preoperative Radiographic Evaluation

- **Oblique Views:** In addition to standard anteroposterior and lateral views, obtain oblique views to visualize the fracture alignment in different planes. This is particularly useful for complex fractures or fractures near joint lines.



## Harborview Illustrated Tips and Tricks in Fracture Surgery by Leonardo Parodi

★★★★☆ 4.3 out of 5

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Enhanced typesetting : Enabled  
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- **Open Reduction:** When closed reduction is insufficient, perform an open reduction through a surgical incision. This allows for direct visualization and manipulation of the fracture fragments.
- **Bone Grafting:** Use bone grafting to fill bone defects or enhance fracture healing. Autogenous iliac crest bone is commonly employed, but synthetic bone substitutes can also be used.

## 2. Fracture Fixation

- **Plate and Screw Fixation:** Select plates and screws of appropriate size and length based on the fracture pattern and bone quality. Utilize fluoroscopy to ensure accurate placement and bone-screw contact.
- **Intramedullary Nailing:** Insert an intramedullary nail into the medullary canal of the long bone. This technique is commonly used for diaphyseal fractures and provides rotational stability.
- **External Fixation:** Apply an external fixator to stabilize fractures in situations where internal fixation is not feasible or contraindicated.

## Postoperative Management

### 1. Early Mobilization

- **Active Range of Motion Exercises:** Encourage patients to perform active range of motion exercises as soon as pain allows. This promotes joint mobility and prevents stiffness.

- **Weight-Bearing Restrictions:** Follow specific weight-bearing guidelines based on the fracture type and fixation method. Gradual weight-bearing helps stimulate bone healing and reduce muscle atrophy.

## 2. Wound Care

- **Wound Dressings:** Use sterile dressings to cover the surgical incisions and protect the wound from infection. Change dressings regularly to keep the wound clean and dry.
- **Wound Debridement:** If a wound becomes infected, perform wound debridement to remove infected tissue and promote healing.

## 3. Physical Therapy

- **Muscle Strengthening:** Begin muscle strengthening exercises under the guidance of a physical therapist to restore muscle function and range of motion.
- **Endurance Training:** Gradually increase the intensity and duration of physical activity to improve cardiovascular fitness and overall well-being.

## Complications and Troubleshooting

### 1. Nonunion

- **Delayed Union:** Assess the fracture site clinically and radiographically to determine if healing is delayed. Consider factors such as infection,

malnutrition, or inadequate immobilization.

- **Avascular Necrosis:** If the fracture involves the blood supply to a bone segment, avascular necrosis may occur. This can lead to bone collapse and require further surgical intervention.

## 2. Malunion

- **Angular Deformity:** Measure the angular deformity using goniometry or fluoroscopy. If significant, consider corrective osteotomy to realign the bone.
- **Rotational Deformity:** Assess the rotational deformity by comparing the affected limb to the contralateral limb. Consider rotational osteotomy to correct the misalignment.

Harborview's innovative tips and tricks in fracture surgery empower orthopedic surgeons with cutting-edge techniques and insights. By incorporating these strategies into their practice, surgeons can enhance preoperative planning, refine surgical techniques, and optimize postoperative management. These evidence-based approaches lead to improved fracture alignment, accelerated healing, reduced complications, and superior patient outcomes. As we continue to advance the field of fracture surgery, Harborview remains committed to sharing its advancements with the global surgical community.

### Harborview Illustrated Tips and Tricks in Fracture

**Surgery** by Leonardo Parodi

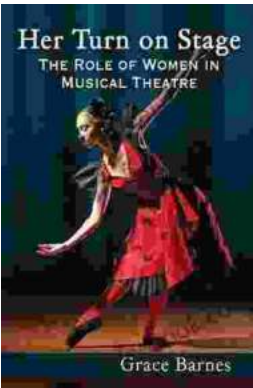
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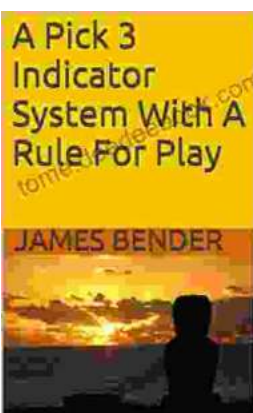


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