



**Course Title:** Hand Therapy 135 – About Scaphoid Fractures

**Course Subtitle:**

- Part I: Diagnosis and Management of Acute Scaphoid Fractures (60 min)
- Part II: Imaging for Acute and Chronic Scaphoid Fractures (1 hr, 10 min)
- Part III: Arthroscopic Management of Scaphoid Nonunion (50 min)

**Course Source:** Journal – Hand Clinics, August 2019

**Course Description:**

**Part I: (Audiovisual Format)**

The scaphoid is the most commonly fractured carpal bone; despite its frequent injury, the diagnosis of fracture can be complicated by the presence of normal radiographs at the time of presentation. Clinical intuition can be increased by physical examination and immediately available modalities such as ultrasound within the emergency department. Definitive diagnosis should be made with computed tomography and magnetic resonance to verify the presence of displacement. This article provides an overview of the incidence and presentation of acute scaphoid fractures with a surgical focus on percutaneous dorsal screw fixation.

**Part II: (Audiovisual Format)**

The scaphoid is the most commonly fractured bone in the wrist but 20% to 40% of scaphoid fractures are radiographically occult. Delayed or misdiagnosis can have significant consequences with late complications such as nonunion, malunion, or the development of avascular necrosis in the proximal pole. After initial negative radiographs, advanced cross-sectional imaging, including CT and MRI, ultimately may provide more accurate and rapid diagnosis than conventional radiography. With chronic fractures, the preferred modality depends on the clinical question. New techniques are evolving that will further advance imaging for diagnosis and treatment of scaphoid fractures.

**Part III: (Text-based Format with supplemental video clips / surgical demonstrations)**

Arthroscopic bone grafting (ABG) in difficult scaphoid delayed union and nonunion allows thorough assessment and comprehensive management for scaphoid fracture and its sequelae. It provides a favorable biological environment for bony healing and produces minimal trauma to the soft tissues, aiding in rehabilitation. With adequate training and experience, high union rates and satisfactory clinical outcomes can be achieved. Poor blood supply of the scaphoid is not a contraindication to bone grafting; union rates over 80% have been reported, comparable to other existing surgical methods. This article discusses the rationale, surgical techniques, and results of ABG.

**Target Audience:** OT / OTA and other healthcare professionals

**Course Type:** Video vs. Text-based

**Educational Level:** Beginner, Intermediate, Advanced

**CE Hours:** 3 contact hour / .3 ceu

**Course Prerequisites:** None

**Course Author / Instructor:** Multiple / Brown, MS, OTR/L, CHT

**Learning Objectives:**

- Discuss the history DD and how this condition got its name
- List 5 common risk factors for developing DD
- Describe the epidemiology of DD
- Describe 2 common signs and symptoms of DD including which digits are most commonly involved and which digits are generally spared
- Examine and describe the normal anatomy and the significance of the palmar aponeurosis
- Describe the pathogenesis of DD including defining and differentiating between the 3 stages of the disease: proliferative, involucional, residual
- Outline common steps involved in making a diagnosis of DD
- List and describe 3 conservative treatment interventions including the advantages of each
- Describe the role of hand therapy in the treatment of DD
- List 5 possible complications following surgery

**Agenda:**

Hour #1

- Introduction
- Mechanism of injury
- Diagnosis
- Management
  
- Conservative, Nonsurgical Treatment
- Surgical Management
  - Dorsal miniopen approach and percutaneous fixation
  - Identifying union and return to activity

Hour #2

- Introduction
- Acute scaphoid fractures
- Chronic scaphoid fractures
- Three-dimensional imaging and modeling of scaphoid fractures
  
- Summary

Hour #3

Introduction

1. Principles of Surgical Treatments of Scaphoid Nonunion

2. Bone Grafting Options for Nonunions
  1. Nonvascularized bone graft
  2. Vascularized bone graft
3. Open Procedures and Minimally Invasive Surgeries in Scaphoid Nonunion
4. The Birth of Arthroscopic Bone Grafting

#### Rationale of arthroscopic bone grafting

1. Why Is Scaphoid Fracture Susceptible to Nonunion and How Does Arthroscopic Bone Grafting Help Nonunion to Heal?
  1. Main deforming forces across the scaphoid fracture: shearing, bending, and pronation forces
  2. Absolute stability is essential for scaphoid fracture healing
  3. Tenuous vascularity of the scaphoid
2. How Does Arthroscopic Bone Grafting Promote Scaphoid Union?
3. Contraindications

#### Surgical techniques

1. Setup
2. Arthroscopic Surveillance
3. Takedown of Nonunion
4. Correction of Scaphoid Deformity
5. Bone Graft Through the Midcarpal Joint
6. Fracture Fixation
  1. Percutaneous screw fixation
  2. Percutaneous multiple Kirschner wire fixation

#### Special conditions

1. Early Scaphoid Nonunion Advanced Collapse Wrist

#### Postoperative care

#### Results

#### **Course Completion Requirements:**

A passing score of 100% is required for course completion. You will have as many attempts as needed until your passing score of 100% is achieved. Upon successful completion of course and completing a satisfaction survey, you will receive your certificate of completion.

#### **Additional Course Information**

**Course Registration:** Register for Free at [www.OnlineCE.com](http://www.OnlineCE.com). Once registered, you can begin to purchase courses. Contact [info@onlinece.com](mailto:info@onlinece.com) for special needs requests and assistance.

**Refund Policy:** There will be no refunds for courses taken at OnlineCE.com or monies deposited into My CE Bank. Any money on account will be used for taking future courses. If you start a course in error, or if you are dissatisfied with a course, please contact us in the first part of the course and we will void the course and you can select a replacement course.

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**Course Date and Location:** This is an independent course that is available 24/7 on-demand at [www.OnlineCE.com](http://www.OnlineCE.com).

**Required Materials and Equipment:** Courses offered on OnlineCE.com can be accessed on any type of computer or device. No special software is required but we do recommend the use of the Chrome Browser (recommended, not required). All course materials are contained within the courses and no prerequisites are required.



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