



**The American Academy of Foot & Ankle Osteosynthesis**

**presents**

***Comprehensive Course of Internal Fixation  
for Reconstructive Surgery and  
Trauma of the Foot & Ankle***

**Goodlett Farms Innovation Centre  
Memphis, Tennessee**

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# American Academy of Foot and Ankle Osteosynthesis

*. . . dedicated to the training of podiatric residents  
in the techniques and skills of skeletal fixation  
trauma and reconstructive surgery of the foot and ankle*

## **Mission Statement**

The mission of the American Academy of Foot and Ankle Osteosynthesis (AAFAO) is to provide comprehensive education in the training of podiatric residents in the techniques and skills of skeletal fixation trauma and reconstructive surgery of the foot and ankle.

Expected results of AAFAO's CME activities for surgeons, fellows and residents are to:

- Increase their knowledge base surgical skill level
- Apply advances in knowledge in the areas of trauma, degenerative disorders, deformities, tumors and reconstructive surgical techniques into patient care resulting in improved competence.
- Address practice performance gaps by improving management of all aspects of musculoskeletal injuries and disorders (i.e., pre-operative planning to post-operative care)

## **Comprehensive Course Description**

This course brings together many innovators in the field of podiatric internal fixation surgery. Faculty will present thorough and up-to-date information on osteosynthesis in the lower extremity. The course is designed to cover the principles and techniques for stable internal fixation for fracture management. For example, faculty will teach the anatomic reduction of fracture fragments, atraumatic surgical techniques used to preserve blood supply to bone fragments and soft tissue, and early pain-free mobilization. Course faculty will also talk about the application of the principles and techniques for current and novel approaches to reconstructive surgery on the foot and ankle.

## **Comprehensive Course Prerequisite**

Participants must be post-graduate year 1 or higher to attend the Comprehensive Course.

## **Comprehensive Course Learner Objectives**

Upon completion of the course, participants should be able to:

- Apply the principles of internal fixation to the foot and ankle
- Identify the problems, complications and intraoperative difficulties that can result from internal fixation
- Apply the principles of management of fractures to the foot and ankle
- Demonstrate current methods of post traumatic reconstruction
- Apply the principles of soft tissue and bony reconstruction to the foot and ankle
- Recognize appropriate use of orthobiologics in fracture management
- Apply psychomotor skills in the practical application of implants to fractures of the foot and ankle
- Avoid complications and improve outcomes through preoperative planning

## **Continuing Education Contact Hours**

This activity has been planned and implemented in accordance with the standards, requirements, and guidelines for approval of sponsors of continuing education in podiatric medicine through an affiliation of The Podiatry Institute and the American Academy of Foot and Ankle Osteosynthesis. The Podiatry Institute is approved by the Council on Podiatric Medical Education as a sponsor of continuing education in podiatric medicine. The Podiatry Institute has approved this activity for a maximum of **23 continuing education contact hours**.

**This course is supported by an unrestricted educational grant from Smith & Nephew**

Thursday

**ALL COMPREHENSIVE COURSE LECTURES TO BE HELD IN THE AUDITORIUM**

**7:25 7:30** *Welcome and Introduction*

**7:30 9:30** **FUNDAMENTALS**

7:30 7:55 History of Internal Fixation in Podiatric Surgery  
7:55 8:20 Bone Healing and Internal Fixation: Osteosynthesis, Bone Grafting  
8:20 8:40 Orthobiologics  
8:40 9:00 Soft Tissue Considerations: Incision Placement, Dissection,  
Preservation of Blood Supply  
9:00 9:30 DVT Panel

**9:30 9:50** *Coffee Break and Return to Lectures*

**9:50 11:15** **NON-SCREW FIXATION TECHNIQUES**

9:50 10:10 Principles and Techniques of Non Operative Management of Fractures  
10:10 10:25 Fundamentals of K-Wires, Steinman Pins, and Cerclage Wire Fixation  
10:25 10:40 Principles of Tension Banding; Intramedullary Splintage and  
Tension Band Wire Techniques  
10:40 10:55 Staple Fixation (Principles and Devices)  
10:55 11:15 Fundamentals of External Fixation

**11:15 11:25** *Travel to Lab*

**11:25 12:00** **PRACTICAL EXERCISE I: NON-SCREW FIXATION TECHNIQUES**

11:25 11:35 A. Assembly and Operation of Power Instrumentation  
11:35 11:45 B. Crossed K-Wire Technique (Hallux IPJ Fusion) "Bucket Handle"  
11:45 12:00 C. K-Wire Splintage and Tension Band Wire Techniques 5th  
Metatarsal Avulsion (Single Loop/ Figure "8"

**12:00 12:15** *Pick up Lunch and head to Clinical Conference Rooms*

**12:15 1:15** **CLINICAL CASE CONFERENCES: FOREFOOT: RECONSTRUCTION / TRAUMA**

Rooms: VSP A, VSP B, VSP C, VSP D, Lobby 1A, 1<sup>st</sup> Floor Auditorium  
Check your name badge for your room assignment

**1:15 1:25** Travel to Lectures

**Thursday (cont.)**

**ALL COMPREHENSIVE COURSE LECTURES TO BE HELD IN THE AUDITORIUM**

<b>1:25</b>	<b>2:10</b>	<b>SCREW FIXATION</b>
1:25	1:35	Anatomy of a Screw
1:35	1:45	Principles and Techniques of Lag Screw Fixation "By Design or by Technique"
1:45	1:55	Cannulated Screws
1:55	2:10	Functional Screw Caddy for Accurate Screw Instrumentation

**2:10 2:20** *Travel to Lab*

<b>2:20</b>	<b>3:25</b>	<b>PRACTICAL EXERCISE II: LAG SCREW TECHNIQUE</b>
2:20	2:30	Proper use of Small Fragment Instrumentation
2:30	2:40	A. Cancellous Screw-Lag Technique
2:40	2:50	B.1 "No Compression" Cortical Screw Insertion
2:50	2:55	B.2 Conversion to a "Lag" Screw / Compression
2:55	3:05	C. Standard Cortical Screw - Lag Technique
3:05	3:15	D. Small Cortical Screw - Lag Technique
3:15	3:25	E. "Compromise" Compression Technique

**3:25 3:40** *Travel to Lectures*

<b>3:40</b>	<b>4:40</b>	<b>OBLIQUE ORIENTATIONS: FRACTURES, OSTEOTOMIES AND SCREW INSERTION</b>
3:40	4:00	Principles and Techniques of Oblique Orientations
4:00	4:10	Akin Osteotomy
4:10	4:30	Oblique Base Wedge Osteotomy of the 1st Metatarsal
4:30	4:40	Question and Answer

**4:40 5:00** *Coffee Break and Travel to Lab*

<b>5:00</b>	<b>6:20</b>	<b>PRACTICAL EXERCISE III: LAG SCREW TECHNIQUES</b>
5:00	5:10	A. Akin Osteotomy / Short Oblique Osteotomy / Single Screw
5:10	5:30	B. Long Oblique Fracture / Lesser Metatarsal / Anchor and "Compression" Screws
5:30	5:50	C. Oblique Base Wedge Osteotomy /axis guide/ "Podiatric" Modification - 2 Screw Technique (compromise technique – anchor/small fragment lag tech for compression screw)
5:50	6:20	D. Dorsiflexory Wedge Osteotomy / "T" Sleeve Technique

**Friday**

**ALL COMPREHENSIVE COURSE LECTURES TO BE HELD IN THE AUDITORIUM**

**7:25 7:30** *Good Morning and Instructions*

**7:30 8:05 HALLUX VALGUS OSTEOTOMIES**

7:30 7:45 Chevron Osteotomies - Axis Guide, Austin, Long Dorsal Arm, Screw Fixation

7:45 8:05 "Z" Osteotomies - Axis Guide, SCARF Osteotomies, Screw Fixation

**8:05 9:30 FOOT AND ANKLE ARTHRODESIS**

8:05 8:30 Principles and Techniques of Joint Arthrodesis

8:30 8:45 Hallux Interphalangeal Joint (IPJ) Fusion

8:45 9:00 1st Metatarsal Phalangeal Joint (MPJ) Arthrodesis

9:00 9:15 Lapidus Arthrodesis / Hallux Abducto Valgus (HAV)

9:15 9:30 Midfoot Arthrodesis (Lisfranc, NC)

**9:30 9:50** *Coffee Break*

**9:50 10:40 FOOT AND ANKLE ARTHRODESIS (cont.)**

9:50 10:05 Rearfoot Fusions

10:05 10:20 Ankle Fusion

10:20 10:40 Tricks

**10:40 12:10 PLATE FIXATION**

10:40 11:00 Orthopaedic Implant Materials

11:00 11:30 Principles of Plate Fixation/Locking Plate Technology

11:30 11:50 Implant Design / Clinical Applications of plate fixations in foot surgery

11:50 12:10 Guidelines for Removal of Implants (Complications, Infection, Broken Screws)

**12:10 12:25** *Pick up Lunch and head to Clinical Conference Rooms*

**12:25 1:25 CLINICAL CASE CONFERENCES: FOREFOOT: RECONSTRUCTION / TRAUMA**

Rooms: VSP A, VSP B, VSP C, VSP D, Lobby 1A, 1<sup>st</sup> Floor Auditorium

Check your name badge for your room assignment

**Friday**

**1:25 1:35 Travel to Labs**

**1:35 2:45 PRACTICAL EXERCISE IV: HALLUX VALGUS OSTEOTOMIES**

- |      |      |  |
|------|------|--|
| 1:35 | 2:05 | A. 1. Austin / Axis Guide / Osteotomy /lock pin fixation<br>2.5 Cannulated Screw |
| 2:05 | 2:25 | A. 2. Long Dorsal Arm / 2 Screw Fixation   |
| 2:25 | 2:45 | B. SCARF / Axis Guide, Osteotomies, 2 Screw Fixation                             |

**2:45 3:35 PRACTICAL EXERCISE V: FOOT AND ANKLE ARTHRODESIS**

- |      |      |  |
|------|------|--|
| 2:45 | 3:10 | B. 1st MPJ Arthrodesis (Crossed Screws 3.0 Cannulated) |
| 3:10 | 3:35 | C. Lapidus / "Seattle" Screw Technique (3.5 Cortical)  |

**3:35 3:55 Coffee Break and Return to Labs**

**3:55 5:10 PRACTICAL EXERCISE V (cont.): TRIPLE ARTHRODESIS**

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|------|------|--|
| 3:55 | 4:15 | D. 1. Subtalar Joint / "Superior" / "Inferior" Approach<br>(6.5 Cancellous / 7.0 Cannulated)                                   |
| 4:15 | 4:30 | D. 2. Talonavicular Joint (6.5 Cancellous, 4.0 Cancellous)   |
| 4:30 | 4:45 | D. 3. Calcaneal - Cuboid Joint (Large Cancellous - 6.5mm);<br>B. Staple Fixation (Information Only)                            |
| 4:45 | 5:10 | E. Ankle Fusions: 1. Tripod Techniques /<br>"Home Run" Screws; (7.0 Cannulated)<br>a. Posterior-Medial; b. Posterior / Lateral |

**Saturday**

**ALL COMPREHENSIVE COURSE LECTURES TO BE HELD IN THE AUDITORIUM**

**7:00 7:05** *Good Morning and Instructions*

<b>7:05</b>	<b>9:10</b>	<b>PRACTICAL EXERCISE VI: PLATE FIXATION</b>
7:05	7:25	A. Plate Principles (Video Only) - Axial Plate Compression, Load Screw, "Pre-Bending"
7:25	7:45	B. Lesser Metatarsal Fracture - Axial Compression
7:45	8:10	C. 1st MPJ Fusion - Interfragmental Compression / Axial Compression
8:10	8:35	D. 1st MPJ Fusion with Bone Graft - LC-DCP Plate, Axial Compression
8:35	9:10	G. Medial Column / Charcot (Combination Fixation) IFC and "Locking" Plate

**9:10 9:25** *Coffee Break and Travel to Lectures*

<b>9:25</b>	<b>11:30</b>	<b>MALLEOLAR FRACTURES</b>
9:25	10:05	Lauge-Hansen Classification
10:05	10:30	Danis-Weber Classification and Syndesmotomic Stability
10:30	11:00	Malleolar Fractures; Philosophy, Strategy and Surgical Techniques
11:00	11:30	Anatomic Dissection of Ankle Fractures

**11:30 12:30** *Lunch and Return to Lab*

<b>12:30</b>	<b>2:00</b>	<b>PRACTICAL EXERCISE VII: MALLEOLAR FRACTURES</b>
12:30	12:55	<b>Weber A</b> - (Transverse Avulsion) K-Wire Splintage / Tension Band - Medial malleolus – vertical shear fracture with anti-glide plate
12:55	1:25	<b>Weber B</b> - SER ( <b>Short Oblique</b> ): - Interfrag screw + neutralization or posterior anti-glide plate - Medial malleus – transverse avulsion – K-wire, splintage (figure "8")
1:25	2:00	<b>Weber C</b> (Comminuted High Fibular Fracture) - Locking Plate / Syndesmotomic Screw - Medial Malleolus / Transverse Avulsion Fracture / 2 x 4.0 screws - Posterior Malleolus (Direct)