

## THIRD YEAR BIOMECHANICS ROTATION 2008 – 2009

<b>Time</b>	Monday and Friday mornings 8:30 am to noon; Tuesday and Wednesday 8:30 AM to 4:30PM
<b>Location</b>	San Francisco General Hospital – New building, Clinic 3 M
<b>Faculty</b>	Joseph Hewitson, D.P.M. Department of Applied Biomechanics California School of Podiatric Medicine at Samuel Merritt College
<b>Course Format</b>	This four-week, third-year clinical rotation is focused on treating patients with lower-extremity pathology that is mechanical in origin. Each patient encounter will be supervised by an attending podiatrist and each student will be subjectively evaluated on his or her ability to apply knowledge, perform tasks and communicate with patients and health care professionals.
<b>Overall goals</b>	To improve student proficiency in gait analysis, musculoskeletal evaluation of the foot and ankle, and treatment of mechanical pathologies using orthotic devices. It is anticipated that upon completion of the third-year Biomechanics rotation, students will be better trained and will have more confidence when starting their fourth-year podiatric clinical clerkships.
<b>Required text</b>	Articles and handouts will be given on the first day.
<b>Attendance</b>	Mandatory. One unexcused absence constitutes a failure of the rotation.
<b>What to Bring</b>	Instruments necessary for biomechanical evaluation (re Clinical Skills in Biomechanics)
<b>Attire</b>	Scrubs + white coat + nametag
<b>Grading</b>	Pass/Fail based on attendance and overall mastery of the rotation goals and objectives. There is no examination for this rotation.

### Policy on Learning Disabilities

Samuel Merritt College will make reasonable accommodation for students with documented disabilities. Students with physical, learning, or psychological disability, who believe that they may need accommodation in the third-year Biomechanics rotation, are encouraged to contact the Coordinator of Academic Support and Disabled Student Services and Dr. Hewitson as soon as possible.

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### Objectives

**By the end of the four week rotation, students should be able to demonstrate the following to an attending podiatrist:**

1. Perform an independent gait analysis, including observation and explanation of the following: Heel contact, midstance, heel lift, toe off and swing variability.
2. Perform a comprehensive lower-extremity musculoskeletal evaluation.
3. Discuss the etiology of the following mechanical pathologies: Plantar fasciitis, metatarsalgia, functional hallux limitus, adult acquired flatfoot, Charcot joint, rheumatoid arthritis foot, pediatric flatfoot, lateral ankle instability, tarsal tunnel syndrome and any other pathologies determined by the attending podiatrist.
4. Formulate appropriate, evidence-based therapy for the following mechanical pathologies: plantar fasciitis, metatarsalgia, functional hallux limitus, adult acquired flatfoot, Charcot joint, rheumatoid arthritis foot, pediatric flatfoot, lateral ankle instability, tarsal tunnel syndrome and any other pathologies determined by the attending podiatrist.
5. Write an effective pathology-specific prescription for custom functional orthoses
6. Communicate appropriately both verbally and in writing with health care professionals from SFGH and St. Mary's Medical Center.
7. Describe how early intervention with bracing and orthoses can alter medical outcomes.
8. Observe and discuss the limitations of orthotic therapy.
9. Demonstrate appropriate negative casting technique for custom functional orthoses
10. Troubleshoot custom functional orthoses with the following problems: poor clinical outcome, poor shoe fit, foot irritation or pain and unexpected results.
11. Dispense orthoses to patients, demonstrating effective communication with and education of the patient.

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**Evaluation Form**

**Student** \_\_\_\_\_ **Rotation**  
**Month** \_\_\_\_\_

	<b>Met</b>	<b>Not Met</b>
Performs a qualitative gait analysis		
Performs a comprehensive, quantitative lower extremity evaluation		
Demonstrates acceptable negative casting technique		
Can write a pathology specific orthotic prescription		
Able to dispense an orthotic		
Able to troubleshoot an orthotic		
Able to communicate an understanding of the pathophysiology of the foot and ankle and the rationale for treatment		
Appropriate attitude and professionalism with patients, staff, peers and clinicians		

Grade:      Pass      Fail

Rotation Supervisor \_\_\_\_\_ Date \_\_\_\_\_