Current Concepts in Neuro and Musculoskeletal Imaging
February 10–15, 2019
Fairmont Orchid Resort & Spa
Kohala Coast, Big Island of Hawaii

CME Credits: 23.75 / SAM Credits: 22.5

https://radiology.ucsf.edu/cme
Course Outline
This course will present a comprehensive state-of-the-art update on clinically relevant topics in neuroradiology and musculoskeletal imaging, including a discussion of optimized protocols with 1.5T and 3T MR units.

Neuroradiology topics to be addressed include routine conditions in pediatric neuroimaging, updated strategies for imaging of the spine and central nervous system, stroke and other neurologic emergencies, and routine head & neck abnormalities.

Musculoskeletal imaging will include throwing injuries of the elbow and shoulder, and a thorough review of shoulder and hip imaging, including the use of ultrasound for the hip.

Self-Assessment (SAM) Credits
This course will offer 22.5 Self-Assessment credits (pending approval and subject to change): 9.0 in Musculoskeletal and 13.5 in Neuro.

As of January 1, 2013, updated MOC Part 2 requirements: 75 CME credits every three years, at least 25 of which must be self-assessment activities. For more information: www.theabr.org/moc-dr-comp2

Course Objectives
At the completion of this course, the attendee should be able to:
1. Update and improve imaging protocols for brain, head & neck, spine, nerve and musculoskeletal imaging;
2. Recognize specific imaging features of infection and tumors in the head, neck, spine and peripheral nerves;
3. Distinguish between normal anatomy, common anatomic variants and pathological disorders related to MRI of the major musculoskeletal joints, brain, head, neck and spine;
4. Recognize internal derangement appearances of the knee, shoulder, elbow, wrist, hip, knee, and foot;
5. Implement newer MR sequences such as 3D volumetric imaging and metal suppression techniques;
6. Understand the parameters of MR arthrographic technique and interpretation of findings;
7. Sharpen evaluation of muscle and tendon abnormalities, and evaluate various abnormalities that simulate musculoskeletal tumors;
8. Develop strategies for creating short brain, spine and neck differentials;
9. Understand advances in stroke management and its impact on imaging;
10. Develop strategies for evaluating common and uncommon abnormalities in the neck and spine.

UCSF Faculty
Matthew D. Bucknor, MD
Course Co-Chair
Assistant Professor of Radiology

William P. Dillon, MD
Professor and Vice-Chair of Radiology

Christine M. Glastonbury, MBBS
Course Co-Chair
Professor of Radiology, and of Otolaryngology and Radiation Oncology

A. James Barkovich, MD
Professor of Radiology
Chief, Pediatric Neuroradiology

Vinil N. Shah, MD
Assistant Professor of Radiology

Ramya Srinivasan, MD
Assistant Professor of Radiology

Lynne S. Steinbach, MD
Professor Emeritus of Radiology

Registration
https://www.cme.ucsf.edu
Pre-registration is encouraged to ensure your space in this course.
Pre-register by December 14, 2018 and save $75 on your enrollment fee.

Tuition $1,295 for all medical professionals; registration discounts are available for qualifying attendees, please review the registration form on the last page.

On-site Registration
Sunday, February 10, 2019 at 7:00 am
The Fairmont Orchid Resort
1 North Kanikku Drive, Kamuela

Syllabus You must provide an email address with your registration to receive advance syllabus information, which will be distributed electronically prior to the course. A paper notebook for taking notes will be provided onsite.
Course Program  page 1 of 2

SUNDAY, February 10, 2019
7:00 am  Registration and Continental Breakfast
7:30   The Throwing Elbow .......................................................... Matthew D. Bucknor, MD
8:15   The Throwing Shoulder ........................................................ Lynne S. Steinbach, MD
9:00  Knee Ligaments ................................................................. Ramya Srinivasan, MD
9:45  Recess
10:00  Radiographic Checklist for Hip Impingement .................. Matthew D. Bucknor, MD
10:30  Knee Menisci: Pearls and Pitfalls ................................. Lynne S. Steinbach, MD
11:00  Skeletal Trauma: Commonly Missed Injuries ............... Ramya Srinivasan, MD
11:30  Pearls & Pitfalls in Shoulder MRI ................................. Lynne S. Steinbach, MD
12:15 pm  Questions and Discussion
12:30  Adjourn

MONDAY, February 11, 2019
7:00 am  Continental Breakfast
7:30  Shoulder Instability ......................................................... Lynne S. Steinbach, MD
8:15  ACL Reconstruction ......................................................... Matthew D. Bucknor, MD
9:00  Ankle MRI: Tendons and Ligaments .............................. Ramya Srinivasan, MD
9:45  Recess
10:00  MRI of the Post-Operative Shoulder ......................... Lynne S. Steinbach, MD
10:30  Osseous Infectious Dilemmas ........................................ Matthew D. Bucknor, MD
11:00  Hip Ultrasound Made Easy ............................................. Ramya Srinivasan, MD
11:30  MRI of Hip Impingement ................................................ Matthew D. Bucknor, MD
12:15 pm  Questions and Discussion
12:30  Adjourn

TUESDAY, February 12, 2019
7:00 am  Continental Breakfast
7:30  Brain Tumor Pitfalls ....................................................... William P. Dillon, MD
8:15  CNS Hypotension: Finding and Fixing that Elusive Leak .... Vinil N. Shah, MD
9:00  Current Concepts in Stroke Imaging ............................... William P. Dillon, MD
9:45  Recess
10:00  CNS Infections .............................................................. William P. Dillon, MD
10:30  Value-Based Imaging of the Degenerative Spine .......... Vinil N. Shah, MD
11:00  Imaging of Headache .................................................... William P. Dillon, MD
11:30  CNS Spine Emergencies: Top 5 Diagnoses Not-to-Miss .... Vinil N. Shah, MD
12:15 pm  Questions & Discussion
12:30  Adjourn

WEDNESDAY, February 13, 2019
No formal course program.
# Course Program

## THURSDAY, February 14, 2019

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 am</td>
<td>Continental Breakfast</td>
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<tr>
<td>7:30</td>
<td>Infections of the Pediatric Brain</td>
<td>A. James Barkovich, MD</td>
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<tr>
<td>8:15</td>
<td>Practical Brachial Plexus MRI</td>
<td>Vinil N. Shah, MD</td>
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<tr>
<td>9:00</td>
<td>Hydrocephalus</td>
<td>A. James Barkovich, MD</td>
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<td>9:45</td>
<td>Recess</td>
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<tr>
<td>10:00</td>
<td>Staging Cervical Nodes</td>
<td>Christine M. Glastonbury, MBBS</td>
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<tr>
<td>10:30</td>
<td>Rapid-Fire Neuro Cases</td>
<td>Vinil N. Shah, MD</td>
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<tr>
<td>11:00</td>
<td>Unknown Primary Tumors</td>
<td>Christine M. Glastonbury, MBBS</td>
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<tr>
<td>11:30</td>
<td>Head &amp; Neck Cases - 1</td>
<td>Christine M. Glastonbury, MBBS</td>
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<tr>
<td>12:15 pm</td>
<td>Questions &amp; Discussion</td>
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<td>12:30</td>
<td>Adjourn</td>
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## FRIDAY, February 15, 2019

<table>
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<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>7:00 am</td>
<td>Continental Breakfast</td>
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<tr>
<td>7:30</td>
<td>White Matter Beyond Multiple Sclerosis</td>
<td>William P. Dillon, MD</td>
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<tr>
<td>8:15</td>
<td>Imaging of Normal and Injured Neonatal and Infant Brain</td>
<td>A. James Barkovich, MD</td>
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<tr>
<td>9:00</td>
<td>Neck Infections</td>
<td>Christine M. Glastonbury, MBBS</td>
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<tr>
<td>9:45</td>
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<tr>
<td>10:00</td>
<td>Techniques for Neonatal Imaging without Sedation</td>
<td>A. James Barkovich, MD</td>
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<tr>
<td>10:30</td>
<td>Parotid Masses</td>
<td>Christine M. Glastonbury, MBBS</td>
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<tr>
<td>11:00</td>
<td>Imaging of NeuroPhakomatoses</td>
<td>A. James Barkovich, MD</td>
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<tr>
<td>11:30</td>
<td>Head &amp; Neck Cases - 2</td>
<td>Christine M. Glastonbury, MBBS</td>
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<tr>
<td>12:15 pm</td>
<td>Questions &amp; Discussion</td>
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<tr>
<td>12:30</td>
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**Accreditation**

The University of California, San Francisco School of Medicine (UCSF) is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

UCSF designates this live activity for a maximum of 23.75 AMA PRA Category 1 Credits.™ Physicians should claim only the credit commensurate with the extent of their participation in the activity.

The total credits are inclusive of 4.5 in CT, 17.75 in MR, and 0.5 in Ultrasound.

This educational activity meets the requirement under California State Assembly Bill 1195, continuing education and cultural and linguistic competency.

All lectures will include Self-Assessment (SAM) questions.
At the Orchid, an ambience of comfort and luxury has been adapted to the natural surroundings and beauty of the island. Among the many resort features that guests can enjoy are plexipave tennis courts (including a stadium court); a ten-thousand square-foot freshwater swimming pool and surrounding whirlpools; and a protected white sand lagoon. Activities include creative wellness programs, basketball, poolside ping-pong, beach volleyball, and other water activities including outrigger canoes.

Guests may start off their mornings with a tennis clinic, power walk and stretch, low-impact aerobic conditioning, or even a snorkel cruise. The 36-hole Francis H. Brown Golf Course is both challenging and spectacular, as it runs along ancient lava flows, native landmarks and the ocean coastline. The Spa Without Walls offers a variety of spa and massage treatments in private, ocean-side cabanas. The Fitness Center is accessible 24/7.

The Orchid’s Keiki Aloha (children’s program) utilizes the hotel’s oceanside location and enables its young guests to learn more about Hawaii and share in the aloha spirit. Children ages five through twelve (who are staying with their parents at the hotel) can participate in a wide range of complimentary activities, including Hawaiian storytelling, hula lessons, coconut-leaf weaving and other island arts & crafts. Prices vary with half-day or full-day programs. The resort also offers a children’s menu (ages twelve and under) in all dining rooms.

The Fairmont Orchid - Big Island of Hawaii

The Fairmont Orchid  www.fairmont.com/orchid
Tel: 800–845–9905 / 808–885–2000 / 1 N. Kaniku Drive, Kohala Coast, Hawaii

When making your accommodation decisions, please take into consideration that staying at the host hotel helps UCSF meet its contractual obligations and keeps registration fees reasonable.

Note that availability of ocean view rooms and suites are limited.
$354 Single/Double Fairmont Room   $674 Garden View Executive Suite
$401 Partial Ocean View   $782 Ocean View Executive Suite
$426 Guaranteed Ocean View   $950 Ocean Front Suite

Reduced daily resort charge of $25 for UCSF attendees who register through the group block (normally $30), which includes: on-ground basic internet, self-park for one vehicle, one-hour daily snorkel rental for two, cultural activities, property shuttle service, 10% discount on luau bookings (published pricing).

Join the Fairmont President’s Club (free) prior to arrival to receive an upgrade to premium speed internet during your stay. Log onto: www.fairmont.com/fpc

Make your reservation early as rooms will likely sell-out before the cut-off date, you must mention the UCSF meeting to receive the rates listed above. Reservation requests made after these deadlines will be extended at the conference rates on a space-available basis only. A credit card number is required to guarantee your reservation.

Rates exclude state hotel room tax of 14.416% (subject to change). Reservations cancelled at least 30 days prior to arrival will incur no cancellation charges; between 29 and 3 days prior to arrival will be charged a two-nights stay (plus taxes); less than 72 hours prior to arrival and no-shows will be charged five-nights stay (plus taxes). In addition to the nightly room-rate, registrants are liable for any hotel taxes, fees, porterage, gratuities and applicable guestroom charges upon check-out.

There is no additional charge for children under the age of 18 who share with their parents. The maximum number of persons per room is 3 adults or 2 adults with 2 children. Third adult charge is $75 per night (includes optional roll-away). Self-park is included in the resort charge, valet is an additional $5 per night.

Resort Highlights
- 36-hole Francis H. Brown coastal golf course
- Spa Without Walls with oceanside cabanas and massage services
- indoor spa treatments and sauna
- 24/7 fitness center access
- children’s dining menus; and full- & half- day activity programs
- plexiplave tennis courts

At the Orchid, an ambience of comfort and luxury has been adapted to the natural surroundings and beauty of the island. Among the many resort features that guests can enjoy are plexipave tennis courts (including a stadium court); a ten-thousand square-foot freshwater swimming pool and surrounding whirlpools; and a protected white sand lagoon. Activities include creative wellness programs, basketball, poolside ping-pong, beach volleyball, and other water activities including outrigger canoes.
Air Travel

UCSF Radiology has negotiated group discounts with Delta, United and Hawaiian Airlines for radiology course attendees. Book online to avoid additional booking fees. Kona airport code = KOA.  [https://airports.hawaii.gov/koa](https://airports.hawaii.gov/koa)

<table>
<thead>
<tr>
<th>Airline</th>
<th>Promo Code</th>
<th>Toll-Free</th>
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</table>

Airport Transfers

[www.speedishuttle.com/group-reservations?id=UCSF85065](http://www.speedishuttle.com/group-reservations?id=UCSF85065)

877-242-5777 / kona@speedishuttle.com

Per person rate: $33.80 one way, $67.60 round trip.

SpeediShuttle provides shared ride airport transportation in Mercedes shuttles between the Kona Airport and the Fairmont Orchid. Guests with pre-arranged arrival reservations will be met by their driver at the baggage claim area, then directed to their shuttle. Vehicle amenities include complimentary Wi-Fi, 6’1” headroom, three-point seat restraints, adjustable head-reases and roomy comfortable seats.

Car Rental

[www.hertz.com](http://www.hertz.com) / CV# 01SY0265 / 800–654–2240

Arrangements have been made with Hertz Car Rental for special rates during this UCSF meeting, as well as one week before and after this meeting, on all of the Hawaiian Islands. Reservations at the group rate can be made by using the CV number listed above.

The Big Island of Hawaii

The Big Island is the birthplace of King Kamehameha 1, the leader who united all of the Hawaiian islands by 1810. The Big Island is the anchor of the island chain and home of Madame Pele, the fire goddess of volcanoes; therefore the color ascribed to the Big Island is red. The Island of Hawaii is the largest and youngest island in the Hawaiian chain, and with the current volcanic activity, the Big Island is still growing.

The sunny and dry west side of the island is referred to as Kona, and the transformation of its shoreline by volcanic eruptions just two-hundred years ago is still evident. The misty east side of the island is referred to as Hilo -- which is a prime growing area for flowers, plants and vegetation, includes many waterfalls, and is home to Hawaii Volcanoes National Park.

The Big Island has one of the world's most active volcanoes (Kilauea), the tallest sea mountain in the world at more than 33,000 feet (Mauna Kea), and the most massive mountain in the world (Mauna Loa). Hawaii's varying and dramatic climate zones generate a world of environments on one island, including lush rain forests, volcanic deserts, snow-capped mountaintops and beautiful black sand beaches.

Activities and Tours

[www.gohawaii.com/big-island](http://www.gohawaii.com/big-island)

- Circle the Big Island Tour
- Volcanoes National Park (Kilauea)
- Place of Refuge National Park
- Mauna Kea Summit and Observatory
- Snorkel and Scuba Excursions
- Manta Ray Snorkel (nightime)
- Catamarans and Sunset Sailing
- Luau Dinner Buffet and Hula/Fire-knife Show
- Waterfall, Valley and Beach Tours
- Kayak “Flumin’ the Ditch” excursion
- Helicopter Tours
- Horse Back Riding
- Whale Watch
- Submarine Tours
- Jeep / ATV Tours
- Coffee Plantations
REGISTRATION

NEURO AND MUSCULOSKELETAL IMAGING (RAD19 022)
February 10–15, 2019 / Fairmont Orchid, Kona
Early Enrollment Deadline: Friday, December 14, 2018

Four easy ways to register:
1. Mail this form to UCSF Office of CME, 3333 California St - Suite 450, SF CA 94118
2. Phone using Visa, Amex or Mastercard. 415−476−5808, 8:30 am - 4:00 pm (Pacific Time)
3. Online at https://meded.ucsf.edu/cme/calendar
4. Fax this form to 415−502−1795

REGISTRANT INFORMATION (PLEASE PRINT)

Name _______________________________________________________________
___________________________  _____________________________  _____________________________
First       Last       Degree
___________________________  _____________________________  _____________________________
Address
Tel _____________________________  Fax _____________________________
___________________________  _____________________________
Area Code    Area Code
E-mail _______________________________________________________________

You must provide your email address to receive advance syllabus information.
Paper copies will not be provided on site.

Would you like to receive general UCSF Radiology CME email notices?  ○ Yes  ○ No

Month / Day of Birth for record verification: ______ / ______ / XXXX

COURSE REGISTRATION

<table>
<thead>
<tr>
<th>By 12/14/18</th>
<th>After 12/14/18</th>
<th>Loyalty Discount applies only to live courses attended (not self-study)</th>
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<tbody>
<tr>
<td>$1,225</td>
<td>$1,295</td>
<td>Standard Registration no UCSF Rad paid course 2018 cal year</td>
</tr>
<tr>
<td>$1,095</td>
<td>$1,170</td>
<td>Silver Status 10% discount 1 UCSF Rad paid course 2018 cal year</td>
</tr>
<tr>
<td>$965</td>
<td>$1,040</td>
<td>Gold Status 20% discount 2 UCSF Rad paid courses 2018 cal year</td>
</tr>
<tr>
<td>$835</td>
<td>$910</td>
<td>Platinum Status 30% discount 3 UCSF Rad paid courses 2018 cal year</td>
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METHOD OF PAYMENT

○ Visa ○ Mastercard ○ American Express ○ Check, payable to UC Regents.

Card No. _______________________________________________________________
Exp. Date _____________________________  Signature _____________________________

Payment may be made by credit card or by check or money order drawn on a U.S. bank in U.S. currency. We regret that we cannot accept checks drawn on foreign banks. Enrollment confirmation will be mailed to you within two weeks of receipt of the application. In the unlikely event that the program is cancelled, UCSF Radiology will refund the registration fee in full, but cannot be responsible for any hotel or travel costs.

Cancellation  A refund of the enrollment fee, less $100, will be made upon receipt of a written request only by Friday, January 11, 2019. No refunds will be made after this date.