

UCSD Center for Functional MRI

Policies and Procedures for Using the Mock Scanner

(Last Updated: 09/21/2010)

The UCSD Center for Functional MRI (CFMRI) houses a mock scanner which simulates the look and feel of a real MRI scanner. The mock scanner allows research subjects to experience a simulated MRI scan prior to undergoing the actual MRI scan session, thus increasing the successful rate of data acquisition and the quality of fMRI data. Investigators who have approved or pending research projects at CFMRI may request access to the mock scanner.

SUMMARY OF KEY STEPS

1. Submit an Online Mock Scanner Request with Project, PI, Operator and Billing Information.
2. Obtain an IRB approval for conducting experiments at CFMRI (the use of the mock scanner should be described in the IRB applications and consent/assent). Sample verbiage is provided below.
3. When online request is approved and IRB approval is verified, CFMRI contacts designated operator(s) to arrange training.
4. PI uses Webschedule to schedule time on Mock Scanner. CFMRI generates invoices based on scheduled time.

Mock Scanner On-line Request

Requests for using the mock scanner should be made online via the Mock Scanner Webschedule. Instructions can be found on CFMRI website:
<http://cfmriweb.ucsd.edu/info/mockscanner.html>

The following information is required:

- a) Project Name and Contact Person
- b) Details of designated operators for mock scanner (limited to 2 operators per project)
- c) Recharge/Billing Information

IRB Approval

The use of the mock scanner should be described in UCSD IRB applications and in consent/assent forms for all human studies. The following is an example of verbiage that can be modified and inserted in IRB applications and Consent Forms:

In the “Research Design and Methods” section of the IRB:[†]

The subject population (e.g. children of age xx-xxx, autistic participants, etc) has difficulty remaining sufficiently still for the duration of an MRI study in order to produce high-quality fMRI data. Pre-training in a realistic MRI environment can significantly increase compliance and reduce data lost due to motion. We will pre-train all of our participants using a mock scanner located at the UCSD Center for FMRI prior to their genuine fMRI test sessions. The mock scanner is a realistic facsimile of a real MRI scanner, replicating the look, feel, and sounds of the real scanner. Participants will be able to observe their motion and practice on staying still with the help of a built-in motion tracking device with real time feedbacks. The participants will also be presented with training stimuli that mirror the tasks they will be given in a genuine test session. Mock scanner training will take approximately 30-45 minutes per participant.

In the Consent Forms:[†]

You will be asked to participate in a preliminary MRI training session at the UCSD Center for FMRI. The training will take place in a “mock” scanner that looks and sounds like a real MRI scanner, but is not a genuine MRI scanner. The purpose of the training is to familiarize you with MRI scans and to help you practice staying still and performing tasks in the MRI scanner. The duration of the training will be 30-45 minutes.

[†] *We would like to acknowledge Dr. Frank Haist for his contribution to the IRB sample verbiage.*

Mock Scanner Training

A mandatory 30 minute hands-on training is required for operating the mock scanner. CFMRI will contact the designated operator to schedule training once the mock scanner online request is approved. A Mock Scanner Training Manual is available at

<http://fmri.ucsd.edu/pdf/MockScannerUserManual.pdf>.

It is recommended that you bring a printed copy of the manual to the hands-on training.

Access to Mock Scanner

Access to the mock scanner room is limited to designated mock scanner operators who have been trained to use the equipment. Card access to the mock scanner room will be granted to each mock scanner operator after successful completion of the training.

Scheduling and Cancellation

After receiving the Webschedule account log in information, the PI may schedule time in 30 minute blocks for use of the mock scanner (<http://cfmriweb.ucsd.edu/webschedule.html>). The cancellation policies are similar to those on the 3T Scanners.

1. *Lost Hours:*

We define lost hours as time-slots that go unused but were previously reserved by a PI for more than 2 hours during the last 30 days. The 2-hour clause provides the opportunity for a PI to hold a slot briefly to confirm that it can be used, and as long as the PI cancels the slot within 2 hours

they incur no responsibility for that slot. If a PI cancels a reserved slot and another PI reserves the slot, the first PI no longer has any responsibility for that slot. Otherwise, the PI is responsible for lost hours attributed to that project. Each month the responsible lost hours will be tallied for each project.

2. Funded Hours:

Funded Hours used by each project are also tallied each month.

3. Pilot Hours

The Center will calculate the number of potential pilot hours at a rate of X% of funded hours. The current rate is set at X% = 50%. We will review this rate periodically and adjust it to reflect actual operating costs of the mock scanner. Net Pilot Hours will be calculated by subtracting the number of Lost Hours from the number of potential Pilot Hours (e.g., Net Pilot Hours = Potential Pilot Hours – Lost Hours). If the number of Net Pilot Hours is greater than zero, then these Pilot Hours will be added to the PI's Pilot Hour account. If the number of Net Pilot Hours is less than zero, then these Pilot Hours will be subtracted from the PI's Pilot Hours account.

4. Reconciliation of accounts.

It is possible for the pilot hour account to accrue a negative balance. Periodically we will reconcile all accounts for a PI, removing pilot hours from their other accounts if necessary to offset the deficit in accounts that have gone negative. If a PI accrues a negative pilot hour balance, then the Center reserves the right to invoice for scan time that has been used and scheduled with pilot hours.

Note: There are no “free” Pilot Hours available at the start of a new project. Pilot Hours will be awarded monthly in accordance with the policy described above.

Parking

PIs and Operators using the mock scanner may schedule an “A” parking permit for their subjects if needed. The two reserved CFMRI parking spaces are primarily designated for the 3T scanners and should **not** be booked for use with the mock scanner. Please remember to cancel the parking reservation when cancelling a scheduled mock scanner time.

All parking reservations at CFMRI should comply with our parking policy which is available on the CFMRI website http://cfmriweb.ucsd.edu/pdf/parking_policy.pdf.

Recharge Rate

The UCSD internal recharge rate for access to the mock scanner is \$50 for each hour that the mock scanner is reserved. Note that this rate is subject to change. Hours will be tallied and billed in 30 minute increments.

Technical Problems

A “technical problem” includes basic mock scanner functions as well as functionality of the standard ancillary equipment (projectors, motion tracking device, etc).

1. Report all Technical Problems

If this is a new problem, the PI or Operator should report the problem through the Problem Report page of the online scheduler. Note that even if you are able to obtain direct help with the problem from someone in the Center please still report the problem and how it was fixed. This will benefit everyone and provide the Center with a better record of how often problems occur.

2. Check Problem Report before coming to CFMRI

Before arriving for a study the PI and/or the Operator should check the Center's web page to see if any equipment problems have been reported that will preclude their planned study. If so the PI should cancel their scheduled time so that they are not billed for it. Also please remember to cancel any Exam Room and Parking bookings.

Adjusting Billing for Technical Problems

If technical problems arise with the mock scanner, billing can be adjusted so that the lost time is not charged. However, billing **cannot** be adjusted for:

- 1) Technical problems that have not been reported by the PI or Operator within 24 hours;
- 2) Time lost due to problems that are the responsibility of the PI or Operator (e.g., if the subject does not show up, the PI's computer fails or the Operator uses the equipment incorrectly);
- 3) Minor system glitches that do not prevent completion of the mock scan session.

QUESTIONS

Please contact CFMRI by email: cfmri@ucsd.edu