

## **CAMRIS SOP #101**

### *Scheduling, Billing, and Occupancy of CAMRIS MRI Scanners by Research Protocols*

<b>Responsible Committee:</b>	<b>Effective From:</b>	<b>Last Approved:</b>	<b>Next Review</b>	<b>Next Approval:</b>
Administration	Jun 28, 2023	July 1, 2025	Jun 1, 2026	July 1, 2026

## **1. Purpose**

This standard operating procedure (SOP) describes the process for scheduling and billing of research protocols for time on the CAMRIS MRI scanners.

## **2. Scope**

This procedure applies to all research protocols that are scheduled and billed using the CAMRIS scheduling system, outside the clinical service. Clinical scans and scans that are arranged as standard-of-care (SOC) studies are not addressed by this SOP.

## **3. Instructions and Procedures**

### **3.1. Establishing and Maintaining a Protocol in the Path Bio Resource (PBR) and CAMRIS Scheduler**

Each group whose research protocol is approved by CAMRIS will have their protocol initially configured in PBR and the CAMRIS Scheduler (a.k.a. PBR Scheduler, Dogfish, or “the calendar”) by CAMRIS staff. The research group is then required to configure and maintain their contact and billing information in the PBR and CAMRIS Scheduler systems. Directions for configuring the contact and billing information are made available on the CAMRIS website. CAMRIS staff are not responsible for configuring or maintaining contact and billing information for protocols. Research groups should contact CAMRIS staff to activate CAMRIS Scheduler access once they have entered their contacts and billing information.

### **3.2. Scheduling Time on Stellar Chance Scanners**

All scans at Stellar Chance are scheduled through the CAMRIS Scheduler. The website is: <https://pathbio.med.upenn.edu/camris/dogfish/> and requires a PennKey to enter.

All scheduled slots will be a multiple of 30 minutes in length. All bookings, except TechDev bookings, must be for a minimum of 1 hour.

CAMRIS will indicate on the calendar which slots have technologist coverage. Slots booked during these times can assume they will have technologist support. Slots booked outside these times can be operated by a CAMRIS-approved independent operator (e.g., a Level 2 operator).

Studies at Stellar Chance have different scheduling permissions, based on the following categories:

#### **3.2.1. Human Research**

Human Research protocols can schedule scanner time up to three weeks in advance.

### 3.2.2. Human Research with Advance Scheduling

Human Research MRI studies that have complicated timepoints or specific participant populations requiring scheduling more than 3 weeks in advance may apply to be approved for advance scheduling. These advance slots are booked by the CAMRIS administrator, in consultation with the study team, based on scanner and technologist availability; requests are submitted via the CAMRIS Service Desk (<https://camris.atlassian.net/servicedesk/>).

### 3.2.3. Human Research Protocol Development (ProDev) Tier 1

ProDev Tier 1 protocols have the same scheduling rules as Human Research scans described in section 3.2.1.

### 3.2.4. Human Research Protocol Development (ProDev) Tier 2

ProDev Tier 2 protocols can schedule scanner time up to one week in advance.

### 3.2.5. Human Research After Hours

Human research scans that meet all three of the following criteria:

- booked overnight between 9pm and 7am on weekdays, or anytime on weekends, and
- not using a technologist
- not an industry-funded study

are billed at a reduced rate published on CAMRIS's rate sheet. These scans can be booked up to three weeks in advance. This billing rate is not automatically implemented by the CAMRIS scheduler, so please contact CAMRIS administrators via the CAMRIS Service Desk (<https://camris.atlassian.net/servicedesk/>) if you would like to book with this reduced rate.

### 3.2.6. Ex vivo and Sample

Ex vivo and sample protocols are allowed to book overnight time during weeknights 4pm-8am, and all day on weekends. These slots can be scheduled up to three weeks in advance and are intended to support long-duration scans. These slots can be pre-empted by Human Research protocols. To pre-empt an ex vivo slot, please contact the team who booked it to coordinate with cancelling their slot in the CAMRIS Scheduler, as this pre-emption is not automatically implemented in the PBR software.

### 3.2.7. Technical Development (TechDev)

TechDev scans are allowed to book up to two weeks in advance but can be pre-empted by any other non-TechDev protocol. These slots are intended to support research and development of novel MR methods.

Each protocol assigned to a Stellar Chance scanner will have a category assigned to it when it is approved by CAMRIS.

## 3.3. Scheduling Time on Hospital of the University of Pennsylvania (HUP) Scanners

All scans at HUP are booked through the CAMRIS Scheduler. In addition, some scans must be booked in PennChart, based on the category of the protocol.

All scheduled slots will be a multiple of 30 minutes in length. All bookings, except TechDev bookings, must be for a minimum of 1 hour.

All human participants scanned at HUP must be technologist assisted, except for human participants scanned by Level 3 operators under TechDev protocols.

Non-human research studies at HUP5 and HUP6 may be technologist-assisted or carried out by a Level 2 operator with appropriate training.

The name of the Level 2 or 3 operator must be included in the title of the booking in the CAMRIS Scheduler.

Studies at HUP have different scheduling permissions and processes, based on the following categories:

### 3.3.1. Human Research Category 1

Human Research MRI studies that have complicated timepoints or specific participant populations requiring scheduling more than 3 weeks in advance may apply to be approved as Category 1. These protocols are authorized to self-book 3 months in advance.

When scheduling greater than 3 weeks in advance, Category 1 protocols need to place an MRI order number in PennChart, and additionally schedule their time in the CAMRIS Scheduler. Within 72 hours of creating the advance booking in the CAMRIS Scheduler, users must enter the associated PennChart MRI order number to confirm the time slot. Bookings without an associated PennChart order number will be removed from the CAMRIS Scheduler.

Bookings made 3 weeks or less in advance are treated like Category 2 bookings (see section 3.3.2) and are not subject to the requirement to enter a PennChart MRI order number within 72 hours. However, all Category 1 protocols must still have their PennChart order number attached in advance of the scan itself, so that CAMRIS staff can confirm the PennChart order has been placed.

These slots are given priority over Ex vivo, Sample, and TechDev bookings and may preempt them.

### 3.3.2. Human Research Category 2 and Animal Research

Human Research MRI protocols in Category 2 and Animal Research protocols can schedule scanner time up to three weeks in advance. These slots are given priority over Ex vivo, Sample, and TechDev bookings and may preempt them.

### 3.3.3. Human Research with Advance Scheduling

Human Research MRI studies that have complicated timepoints or specific participant populations requiring scheduling more than 3 weeks in advance may apply to be approved for advance scheduling. These advance slots are booked by the CAMRIS administrator, in consultation with the study team, based on scanner and technologist availability; requests are submitted via the CAMRIS Service Desk (<https://camris.atlassian.net/servicedesk/>).

### 3.3.4. Human Research Protocol Development (ProDev) Tier 1

ProDev Tier 1 protocols have the same scheduling rules as Human Research Category 2 scans described in section 3.3.2.

### 3.3.5. Human Research Protocol Development (ProDev) Tier 2

ProDev Tier 2 protocols can schedule scanner time up to one week in advance.

### 3.3.6. Ex vivo and Sample

Ex vivo and sample protocols are allowed to book overnight time during weeknights 4pm-8am, and all day on weekends. These slots are intended to support long-duration scans.

### 3.3.7. Technical Development (TechDev)

TechDev scans are allowed to book up to two weeks in advance but can be pre-empted by any other non-TechDev protocol. These slots are intended to support research and development of novel MR methods.

Each protocol assigned to a HUP scanner will have a category assigned to it when it is approved by CAMRIS. Some protocols may have more than one category assigned (e.g., Category 2 + Advance Booking allows groups to book themselves, but also request advance slots via the CAMRIS administrator).

## 3.4. Scheduling Technologist Coverage

The majority of CAMRIS studies require a technologist to assist and prepare the participants and operate the scanner. Technologist coverage is not guaranteed for all bookings, and so the following process is used to ensure clear and equitable allocation of technologist resources.

### 3.4.1. Posted Technologist Availability

All technologist availability is posted in the CAMRIS Scheduler. Technologists will use grey “notification” boxes to indicate slots that they are available to cover. Bookings made during these slots can assume they will have technologist coverage. Bookings without a grey “notification” box cannot assume a technologist will be available. CAMRIS will work to ensure this availability is posted as far in advance as possible and provide timely notification to users of any changes that affect their bookings. Only CAMRIS staff can post these notifications; users should not create these notifications, even if they believe a technologist will be available to cover their slot.

### 3.4.2. Requesting Additional Technologist Availability

Users can request additional technologist availability for slots that are not currently posted on the CAMRIS Scheduler. This is done through the CAMRIS Service Desk (<https://camris.atlassian.net/servicedesk/>); do not contact individual technologists directly to arrange coverage as this undermines CAMRIS’s ability to equitably allocate available staffing resources across studies. When requesting additional coverage, please provide both the numbers of hours you need, and as flexible a set of dates and times as possible. CAMRIS staff will work to provide a timely response to these requests but cannot guarantee that all requests can be fulfilled.

## 3.5. Occupancy in Scanner Bays

Users must log in to their booking in the CAMRIS Scheduler upon entering the bay and log out of their booking as the last step before leaving.

Users should not assume they can use any equipment or facilities in a scanner bay that is occupied by another group (as made visible in the CAMRIS Scheduler by being logged in). Users are welcome to ask if they can enter a bay in use, but a group who is currently logged in is under no obligation to allow other occupants.

### 3.5.1. Occupancy Rules for Independent Operators

Groups operating without technologist assistance must leave the bay and log out of their booking in the CAMRIS Scheduler before the next scheduled scan slot. As noted in section 3.7.1, technical issues are grounds for a no-charge cancellation and should not be resolved by running over-time.

### 3.5.2. Occupancy Rules for Technologist-Assisted Bookings

Absent exceptional circumstances, groups must leave the bay and log out of CAMRIS Scheduler before the next scheduled scan slot. Under exceptional circumstances and at the technologist's discretion, scan slots may run into the next group's allocated time.

### 3.6. Time-Based Billing for Scanner Usage

#### 3.6.1. Calculating Billable Time

Billing for scanner usage is based on hourly rates, published on the CAMRIS website each fiscal year. Each protocol is assigned to a specific rate category when it is approved by CAMRIS. Rates are only modified once each fiscal year, effective from the start of the fiscal year.

#### 3.6.2. Calculation Billing Duration

Each session is billed based on the total duration of scanner use, rounded up to the nearest 1 minute. Duration of scanner use is defined as the elapsed time between the *effective start time* and the *effective end time*.

*Effective Start Time* for a booking is defined as the later of when the booking was scheduled to start and when the previous group logged out.

*Effective End Time* for a booking is defined as the later of when the booking was scheduled to end, or when the user logged out.

For the bookings in the Ex vivo and Sample category, the billed duration will not exceed 4 hours, regardless of the session duration calculated using the above process.

#### 3.6.3. Cancellations and No-Show Bookings

A group that is not able to use their slot must notify CAMRIS staff 2 business days in advance to avoid a no-show fee. If CAMRIS is not given 2 business days' notice, and the slot cannot be filled by another non-TechDev group, then the booking will be charged at the hourly no-show fee based on the total booked time.

### 3.7. Per-Session Ancillary Fees for Scanner Usage

Protocols that use ancillary equipment or specific services are billed per-session fees. These per-session fees are described on the CAMRIS website. Each protocol is assigned per-session fees when the protocol is approved by CAMRIS.

### 3.8. Refunds and Billing Corrections

#### 3.8.1. Refunds due to Technical Issues

When a technical issue occurs with any of the CAMRIS equipment or facilities that prevents a group from performing their study, they are entitled to have no-charge for their slot. Groups who experience a technical issue during their slot are required to report the technical issue immediately in person to a CAMRIS staff member (e.g., technologist or physicist) or via the #technical\_issues Slack channel on the UPenn MRI Slack workspace (<https://upennmri.slack.com>) in order to receive a no-charge cancellation. Users whose slots require equipment that is marked as non-functional on the CAMRIS Statuspage (<https://camris.statuspage.io>), or who could reasonably have expected their booking might overlap with downtime posted on the Statuspage, are similarly entitled to no-charge cancellation of their bookings.

#### 3.8.2. Refunds due to Scanner Unavailability

If the scanner is unavailable due to a non-technical issue (e.g., previous group does not vacate the bay within 15 minutes of your scheduled start time) you are entitled to a refund for the slot that was effectively unavailable.

### 3.8.3. Refunds due to Hospital or University Closures

CAMRIS scanners will generally be staffed for all Hospital workdays. Note that the Hospital does not automatically close due to University closures (e.g., during snow emergencies the Hospital often remains open when the University closes). However, recognizing that many study teams rely on University staff and facilities for their studies, if either the University or Hospital is closed, bookings made before the closure announcement can be cancelled at no charge if they fall during the closure period. Please contact CAMRIS staff to request a no-charge cancellation, as this is not automatically applied in the CAMRIS Scheduler and must be implemented manually.

### 3.8.4. Requesting Refunds and Billing Corrections

Refunds and billing corrections must be requested within 90 days. Requests should be made via the CAMRIS Service Desk (<http://camris.atlassian.net/servicedesk/>), specifying the PBR invoice #, protocol #, justification for the refund/correction request, and providing any additional information that can help document the claim (e.g., identifying the technical issue was reported via Slack, or the specific slot that was overrun by a prior group).

CAMRIS may correct billing due to its own administrative errors dating back 6 months, although University policies may preclude correcting issues in previous financial years, even if 6 months has not yet elapsed.

## 4. Update History

Date:	Description of Revision
Jun 28, 2023	Initial version
Oct 18, 2023	<ul style="list-style-type: none"> <li>Added section 3.4 for technologist coverage; renumbered subsequent sections.</li> <li>Corrected error in prioritization of TechDev Tier 2 (sections 3.2.4 and 3.3.5).</li> <li>Clarified when CAMRIS rates changes (section 3.6.1)</li> </ul>
Jan 19, 2024	Updated section 3.4.2 to direct requests for technologist coverage to the CAMRIS Service Desk.
Mar 14, 2024	<ul style="list-style-type: none"> <li>Added section 3.8.3 on cancellations due to closures, and renumbered previous section 3.8.3 to 3.8.4.</li> <li>Removed old instructions for requesting technologist coverage from section 3.2, as these have been superseded by section 3.4.</li> <li>Renamed section 3.8.1 to be consistent with 3.8.2 and 3.8.3.</li> <li>Added "All scheduled slots will be a multiple of 60 minutes in length." to section 3.3 to make it consistent with section 3.2.</li> <li>Updated section 3.3.1 to include requirement for adding PennChart order # to Category 1 orders within 72 hours.</li> <li>Clarified naming of PBR and CAMRIS Scheduler, to be consistent with other documentation.</li> <li>Clarified that users need to be logged into their booking, not just the CAMRIS Scheduler, at section 3.5.</li> <li>Added link to CAMRIS Service Desk to section 3.2.2 and 3.3.3 on advance booking requests.</li> </ul>



	<ul style="list-style-type: none"> <li>Fixed error in section 3.3.3, correcting advance booking to be available for protocols needing booking greater than 3 weeks in advance (previously said 2 months). This is now consistent with section 3.2.2.</li> <li>Corrected error in section 3.6.2 where rounding increment was described as 5 minutes, but our software has actually implemented 10 minutes. To ensure consistent billing for the whole of FY24, we are updating our policy to match the existing billing practice.</li> <li>Replaced all references to “subject” with “participant”</li> <li>Updated section 3.8.1 to note that teams must either inform a CAMRIS staff member of post to #technical-issues on Slack when a technical issue occurs.</li> <li>Updated section 3.8.4 to direct that billing corrections should be requested via the CAMRIS Service Desk instead of via email.</li> </ul>
Apr 9, 2024	<ul style="list-style-type: none"> <li>Updated section 3.3.1 to clarify that category 1 bookings made 3 weeks or less in advance are not subject to the requirement to add a PennChart order number within 72 hours.</li> </ul>
Nov 13, 2024	<p>CAMRIS Administrative Committee performed annual review and moved to renew the policy, with the following changes:</p> <ul style="list-style-type: none"> <li>Section 3.3 updated to include details about who can perform non-human research scans at HUP, and to require the inclusion of the level 2 or 3 operators’ name in the booking</li> <li>Subtitle added to section 3.6.2</li> <li>Reformatted to fix spacing and fonting</li> </ul>
Jan 8, 2025	<p>Section 3.2.4 and 3.3.5 updated to reflect that ProDev Tier 2 protocols can schedule scanner time up to one week in advance.</p>
July 1, 2025	<ul style="list-style-type: none"> <li>Added section 3.2.5 (Human Research Off-Hours bookings) and renumbered subsequent points.</li> <li>Amended 3.2 and 3.3 to reflect that bookings are in 30 minute increments, and that all non-TechDev bookings must be for a minimum of 1 hour.</li> <li>Amended section 3.3.2 to add Animal Research bookings, as these follow the same rules as Human Category 2.</li> <li>Amended 3.6.2 to indicate that billed times are rounded to the nearest 1 minute.</li> <li>Amended 3.6.2 to indicate that Ex Vivo and Sample billing is capped at 4 hours per booking.</li> </ul>