

# BioSTAC

COLLECTION AND SHIPMENT TRAINING

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NCRAD

# Training Overview: BioSTAC

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- Kit Review
- Sample Collection and Processing
- Sample Shipping
- Sample Form
- NCRAD Website
- Common Nonconformance Issues
- Questions?

# BioSTAC Study Specimens

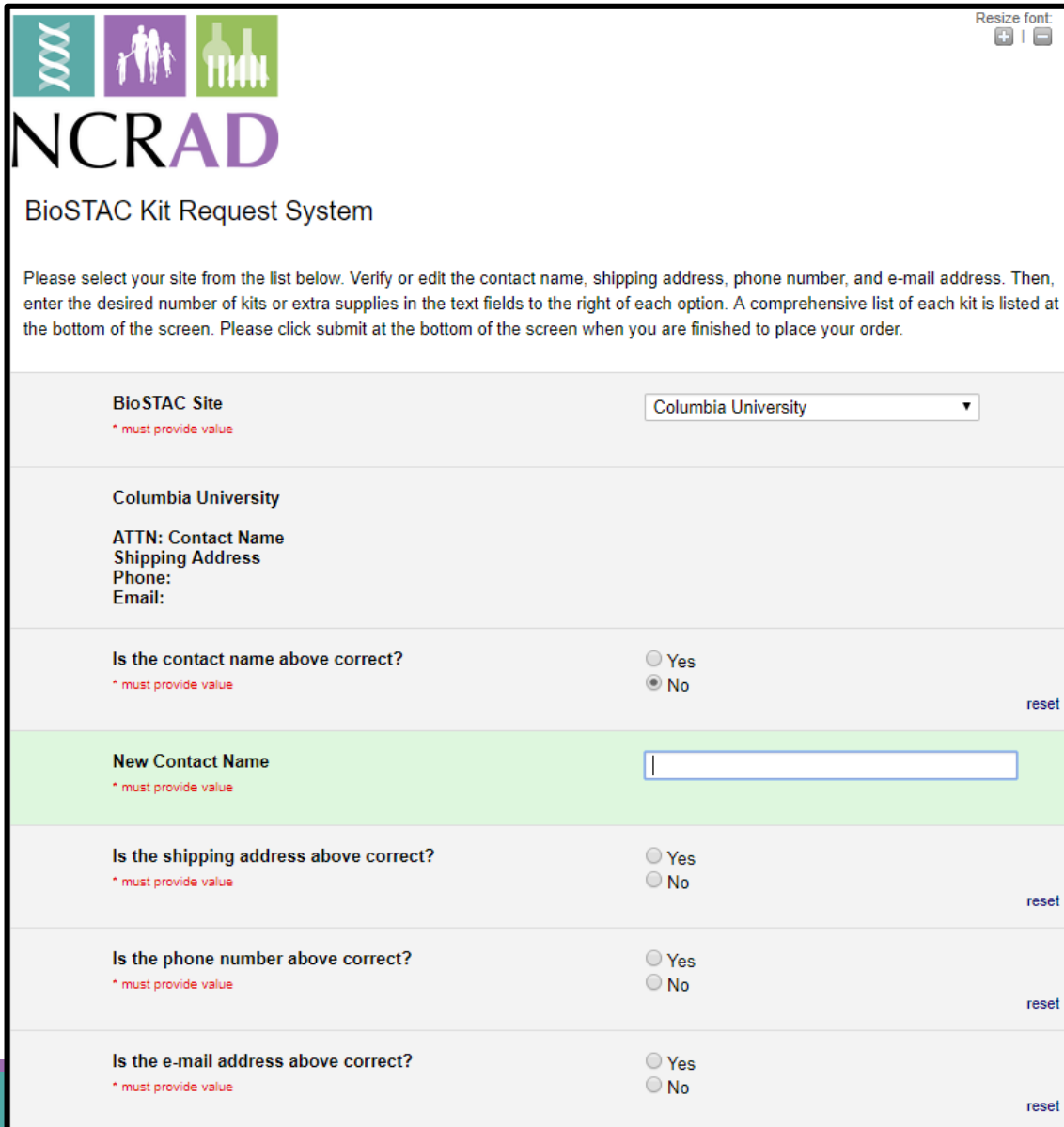
Biospecimen	Visit 1
Plasma	X
Buffy Coat (DNA)	X
CSF	X

# Kit Request Module

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<http://kits.iu.edu/biostac/>

# BioSTAC Kit Request Module



The screenshot shows the BioSTAC Kit Request System interface. At the top, there are three icons: a DNA helix, a family silhouette, and laboratory glassware. Below these is the NCRAD logo. The title "BioSTAC Kit Request System" is displayed. A paragraph of instructions follows: "Please select your site from the list below. Verify or edit the contact name, shipping address, phone number, and e-mail address. Then, enter the desired number of kits or extra supplies in the text fields to the right of each option. A comprehensive list of each kit is listed at the bottom of the screen. Please click submit at the bottom of the screen when you are finished to place your order." The form consists of several sections. The first section has a "BioSTAC Site" label, a red asterisk note "\* must provide value", and a dropdown menu currently showing "Columbia University". The second section is for "Columbia University" and lists fields for "ATTN: Contact Name", "Shipping Address", "Phone:", and "Email:". The third section asks "Is the contact name above correct?" with radio buttons for "Yes" and "No" (selected), a red asterisk note, and a "reset" link. The fourth section is highlighted in green and asks for a "New Contact Name" with a text input field, a red asterisk note, and a "reset" link. The fifth section asks "Is the shipping address above correct?" with radio buttons for "Yes" and "No", a red asterisk note, and a "reset" link. The sixth section asks "Is the phone number above correct?" with radio buttons for "Yes" and "No", a red asterisk note, and a "reset" link. The seventh section asks "Is the e-mail address above correct?" with radio buttons for "Yes" and "No", a red asterisk note, and a "reset" link.

BioSTAC Kit Request System

Please select your site from the list below. Verify or edit the contact name, shipping address, phone number, and e-mail address. Then, enter the desired number of kits or extra supplies in the text fields to the right of each option. A comprehensive list of each kit is listed at the bottom of the screen. Please click submit at the bottom of the screen when you are finished to place your order.

BioSTAC Site

\* must provide value

Columbia University

ATTN: Contact Name  
Shipping Address  
Phone:  
Email:

Is the contact name above correct? ☐ Yes ☒ No

\* must provide value

reset

New Contact Name

\* must provide value

Is the shipping address above correct? ☐ Yes ☐ No

\* must provide value

reset

Is the phone number above correct? ☐ Yes ☐ No

\* must provide value

reset

Is the e-mail address above correct? ☐ Yes ☐ No

\* must provide value

reset

- Choose your site from the drop-down list.
- The coordinator name and contact information will appear.
- Verify that this information is accurate, or correct it if necessary.

Specimen Collection Kit	
BioSTAC Collection Kit	<input type="text" value="1"/>
BioSTAC LP Kit	<input type="text"/>
Shipping Kits	
UPenn Ambient Shipping Kit	<input type="text"/>
NCRAD Frozen Shipping Kit (holds 3 subjects)	<input type="text"/>
Supplemental Kits	
BioSTAC Supplemental Supply Kit	<input type="text"/>
Extra Supplies	
Do you need extra BioSTAC kit supplies? <small>* must provide value</small>	<input type="radio"/> Yes <input type="radio"/> No
Comments	<input type="text"/> <div>Expand</div>
<p>Each BioSTAC Collection Kit Contains:</p> <ul style="list-style-type: none"> <li>1 EDTA (purple-top) blood collection tube (10 ml)</li> <li>4 Cryovial (2 ml) with purple cap</li> <li>1 Cryovial (2 ml) with gray cap</li> <li>1 False bottom, low protein binding CSF collection tube</li> <li>2 Disposable graduated transfer pipette</li> <li>1 Pre-printed UPenn CSF Specimen Label</li> <li>7 Pre-printed NCRAD Cryovial Labels</li> <li>4 Pre-printed Kit Number Labels</li> <li>2 Labels for handwritten Site and NACC ID</li> <li>1 Cryovial box (holds up to 25 cryovials)</li> </ul>	
<div>Submit</div>	

- Indicate the quantity needed of each kit
- Once selected, kit components of the chosen kit will appear at the bottom of the screen
- Click “Submit” to turn in your request.
- \*\*Note: You can order more than one type of kit in a single kit request\*\*

# Specimen Labels

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NCRAD

# Four Label Types

Kit Number



300001

Kit Number

Site: \_\_\_\_\_

NACC ID: \_\_\_\_\_

Site and NACC ID

NACC \_\_\_\_\_

Draw date mm/dd/yy: \_\_ / \_\_ / \_\_



000001

Upenn Specimen

BioSTAC

Plasma

Kit: 300001

NCRAD Cryovial



# Kit Number Labels



***Provided by NCRAD in the kits***

Used to track patient samples and provide quality assurance – Will be placed on the following locations :

1. EDTA collection tube
2. Blood/CSF Sample Processing Forms
3. Cryoboxes that house aliquots during shipping
4. One extra label provided

# Site and NACC Labels

Site: _____
NACC ID: _____

- Subjects will be identified by their Site and NACC ID
- Sites will be responsible for handwriting this onto the provided labels
  - Must use Fine Point Marker
  - Each site will receive 3 markers in initial kit supply

# Upenn Specimen Labels

NACC\_\_\_\_\_

Draw date mm/dd/yy: \_\_ / \_\_ / \_\_



000001

- Collection Tube labels have 3 components:
  - NACC ID field
  - Collection date field
  - Specimen barcode

# NCRAD Cryovial Labels

BioSTAC

Plasma

Kit: 300001

BioSTAC

Buffy Coat

Kit: 300001

BioSTAC

CSF

Kit: 300001

- Only one label to be placed on each cryovial

- **Plasma**

- From EDTA tube

- **Buffy Coat**

- From EDTA tube

- **CSF**

# Blood Collection Tube

## Label 1: Site and NACC ID label

Site: _____
NACC ID: _____

## Label 2: Kit Number label

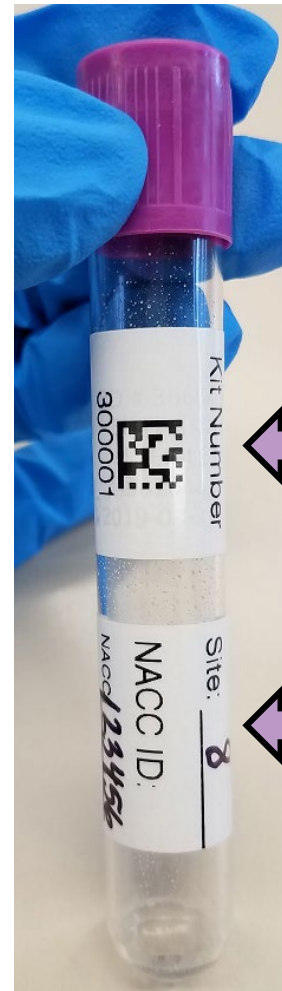
Kit Number

300001

All collection tubes will have two labels:

- The handwritten Site and NACC ID label
- The kit number label

# Blood Collection Tube Labels



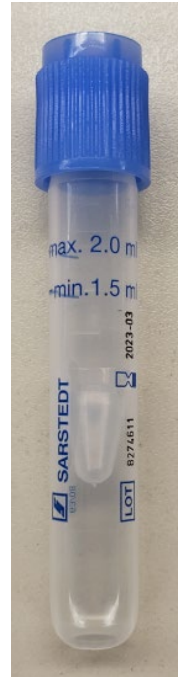
Kit Number Label

Site and NACC ID Label

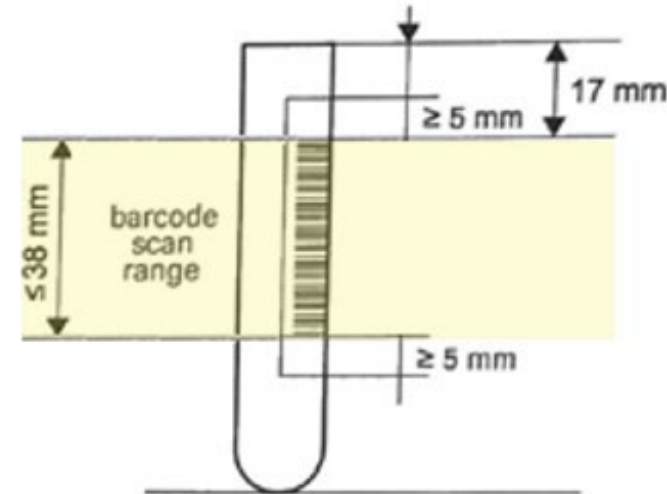
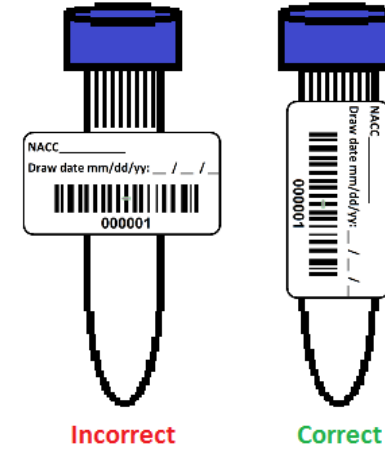
EDTA Tube

# Labeling UPenn Cryotube

- Label tube immediately after collecting CSF (to keep tube sterile)
- Place label approx. in middle of tube for automated barcode scanning
- Make sure the label is completely adhered by rolling between your fingers
- Do not cover volume markings on tube

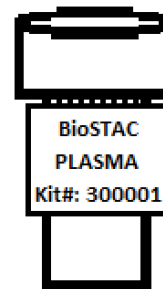


UPenn CSF Cryotube

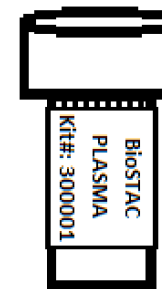


# Labeling NCRAD Cryovials

- Label all collection and aliquot tubes before collecting, processing or freezing samples
- Label only 1 subject's tubes at a time to avoid mix-ups
- Wrap the label around the tube horizontally. Label position is important for all tube types
- Make sure the label is completely adhered by rolling between your fingers
- Do NOT cover barcode on cryovial with label



Incorrect



Correct






# Handling/Processing Study Specimens

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NCRAD

# Blood Draw Order

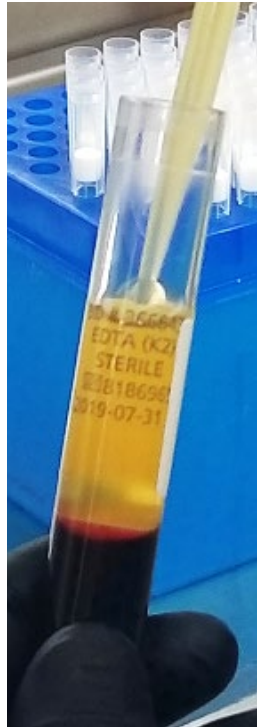
Tube Type	Number of Tubes Drawn	Tube Image
1. EDTA (Purple-Top) Tube (10 ml)	x1	

Blood should be collected the same day as CSF, following a minimum 6 hour fast.

# NCRAD Cryovial Cap Colors

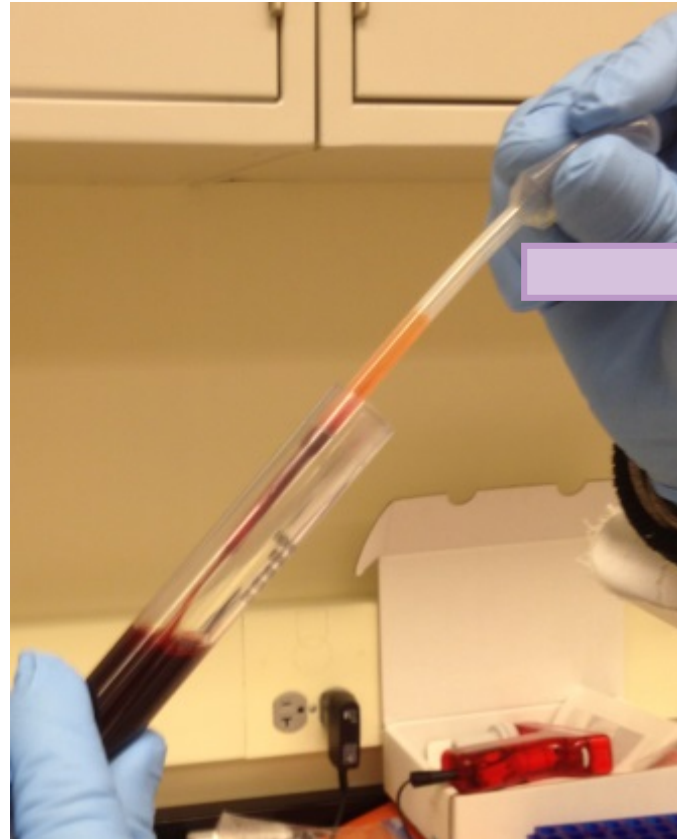
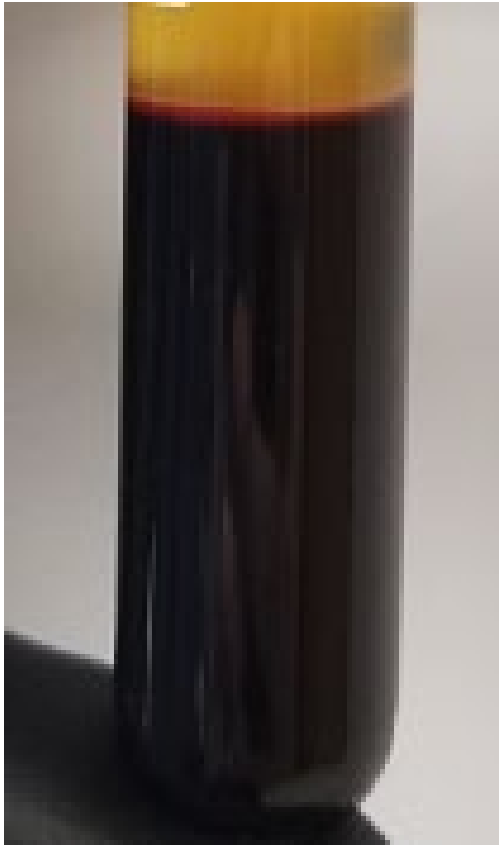
Cap Color	Sample Type	Cap Image
Purple	Plasma	
Gray	Buffy Coat	
Gray	CSF	

# Plasma Collection



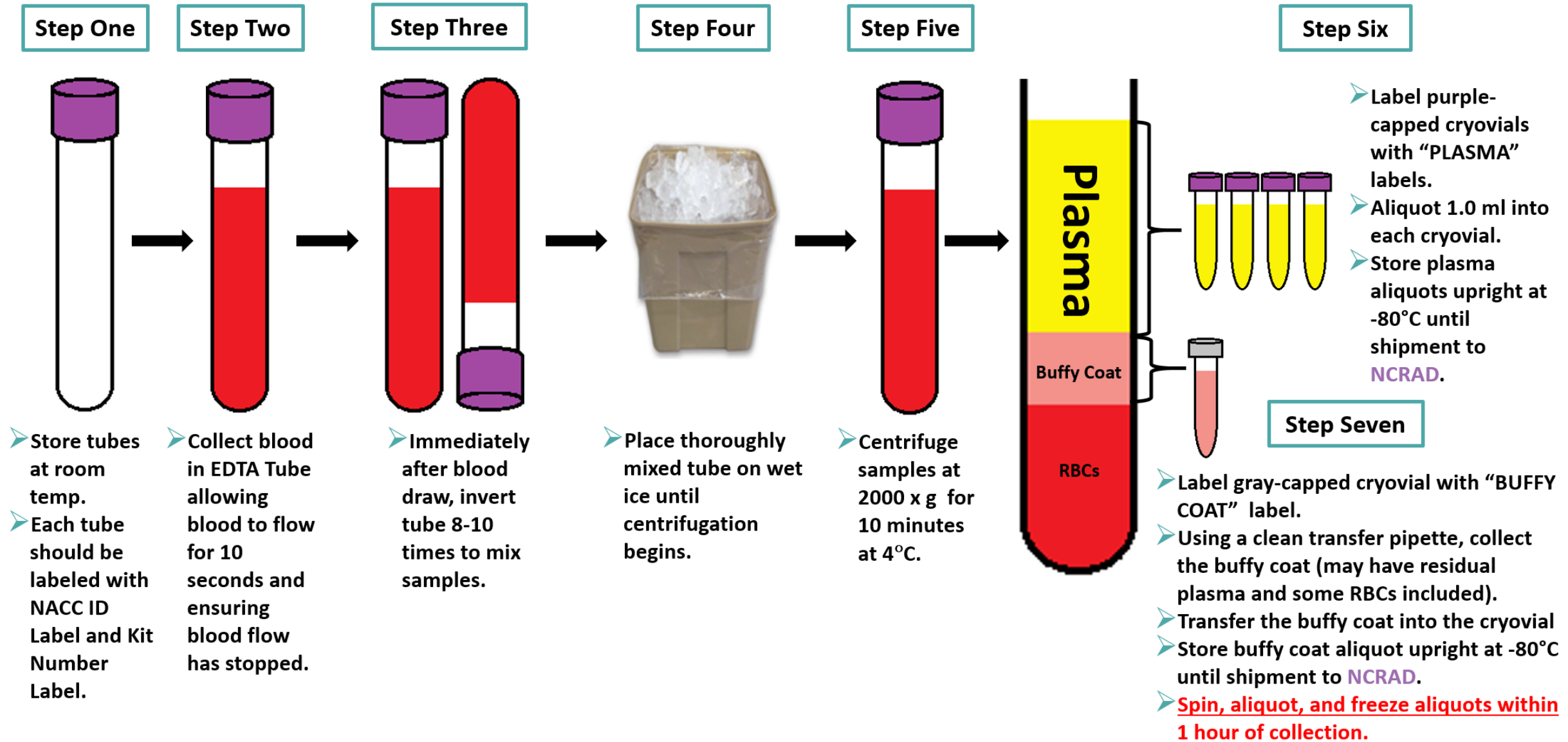
Create up to four 1.0ml  
plasma aliquots

# Buffy Coat Collection



Create 1 buffy coat

# Plasma/Buffy Coat Collection and Processing



# CSF Collection



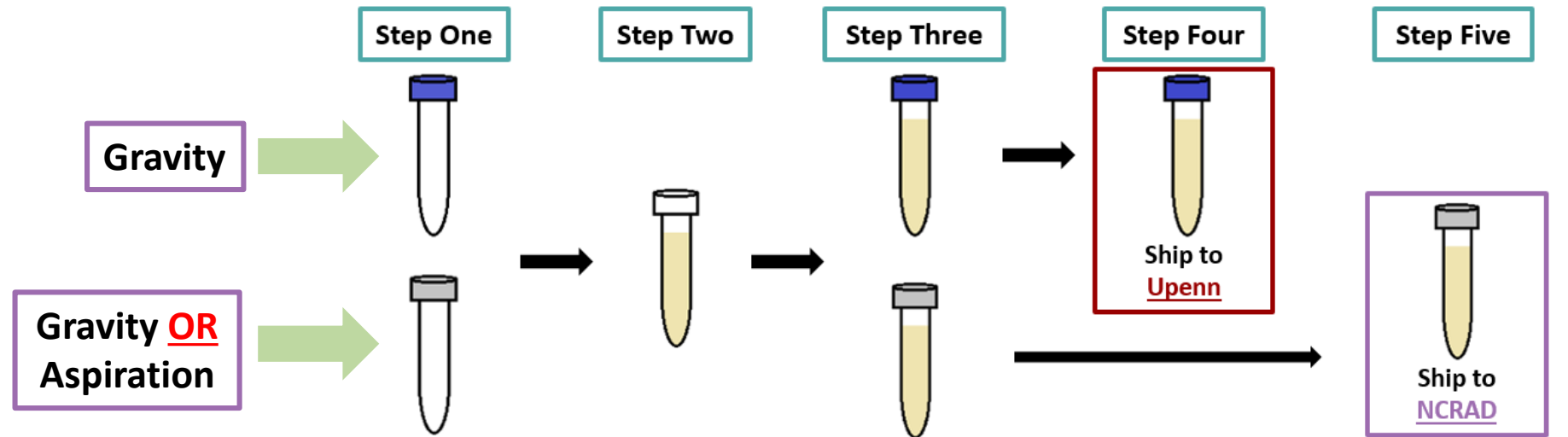
Ambient **Upenn** Sample



Frozen **NCRAD** Sample  
(at least one 1.0 ml aliquot)

CSF should be collected the same day as blood, following a minimum 6 hour fast.

# CSF Collection and Processing



➤ Label CSF collection tubes with pre-printed specimen labels prior to collection.

➤ Collect initial 1-2 ml CSF for local lab testing.

➤ Collect 2.0-2.5 ml CSF into the false bottom, low protein binding CSF collection tube with **UPenn** label.

➤ Collect 1.0 ml CSF into one 2.0 ml gray-capped cryovial with **NCRAD** label.  
(Additional cryovials provided in supplemental kit to create a second 1.0 ml aliquot to send to **NCRAD** if desired.)

➤ Send 2.0-2.5 ml **ambient** CSF sample to **UPenn** **SAME DAY AS COLLECTION.**

➤ Store 1.0 ml CSF sample(s) upright at -80°C until **frozen** shipment to **NCRAD**.



# Sample Form

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NCRAD

## Blood/CSF Sample Processing Form

Study: BioSTAC

Site ID: \_\_\_\_\_ NACC ID: NACC

Kit #:

KIT BARCODE

Sex: ☐ M ☐ F Year of Birth: \_\_\_\_\_

Date subject last ate: \_\_\_\_\_ [MMDDYY]

Time subject last ate: \_\_\_\_\_ [HHMM]

*Blood Collection:*

Date of draw:	_____ [MMDDYY]
Time of draw:	_____ [HHMM]
Original volume drawn:	_____ ml
Time spin started:	_____ [HHMM]
Duration of centrifuge:	_____ mins
Temp of centrifuge:	_____ °C
Rate of centrifuge:	_____ x g
Time aliquoted:	_____ [HHMM]
# of 1.0 ml plasma aliquots created:	_____
Time aliquots frozen:	_____ [HHMM]
Storage temperature in freezer:	_____ °C
Buffy coat aliquot created:	<input type="checkbox"/> Yes <input type="checkbox"/> No

*Ambient CSF Sample Collection:*

Date of draw:	_____ [MMDDYY]
Time of draw:	_____ [HHMM]
Collection method:	<input type="checkbox"/> Gravitational
Needle Used:	<input type="checkbox"/> Quincke <input type="checkbox"/> 22g Sprotte <input type="checkbox"/> 24g Sprotte
Volume of ambient CSF sample:	_____ ml
Ambient CSF sample barcode (6 digits):	_____

*Frozen CSF Sample Collection:*

Collection method:	<input type="checkbox"/> Gravitational <input type="checkbox"/> Aspiration
# of 1.0 ml CSF aliquots created for NCRAD:	_____
(if spun) Time spin started:	_____ [HHMM] <input type="checkbox"/> N/A
(if spun) Duration of centrifuge:	_____ mins <input type="checkbox"/> N/A
(if spun) Temp. of centrifuge:	_____ °C <input type="checkbox"/> N/A
(if spun) Rate of centrifuge:	_____ x g <input type="checkbox"/> N/A
Time aliquoted:	_____ [HHMM]
Time aliquots frozen:	_____ [HHMM]
Storage temperature in freezer:	_____ °C

Notes:

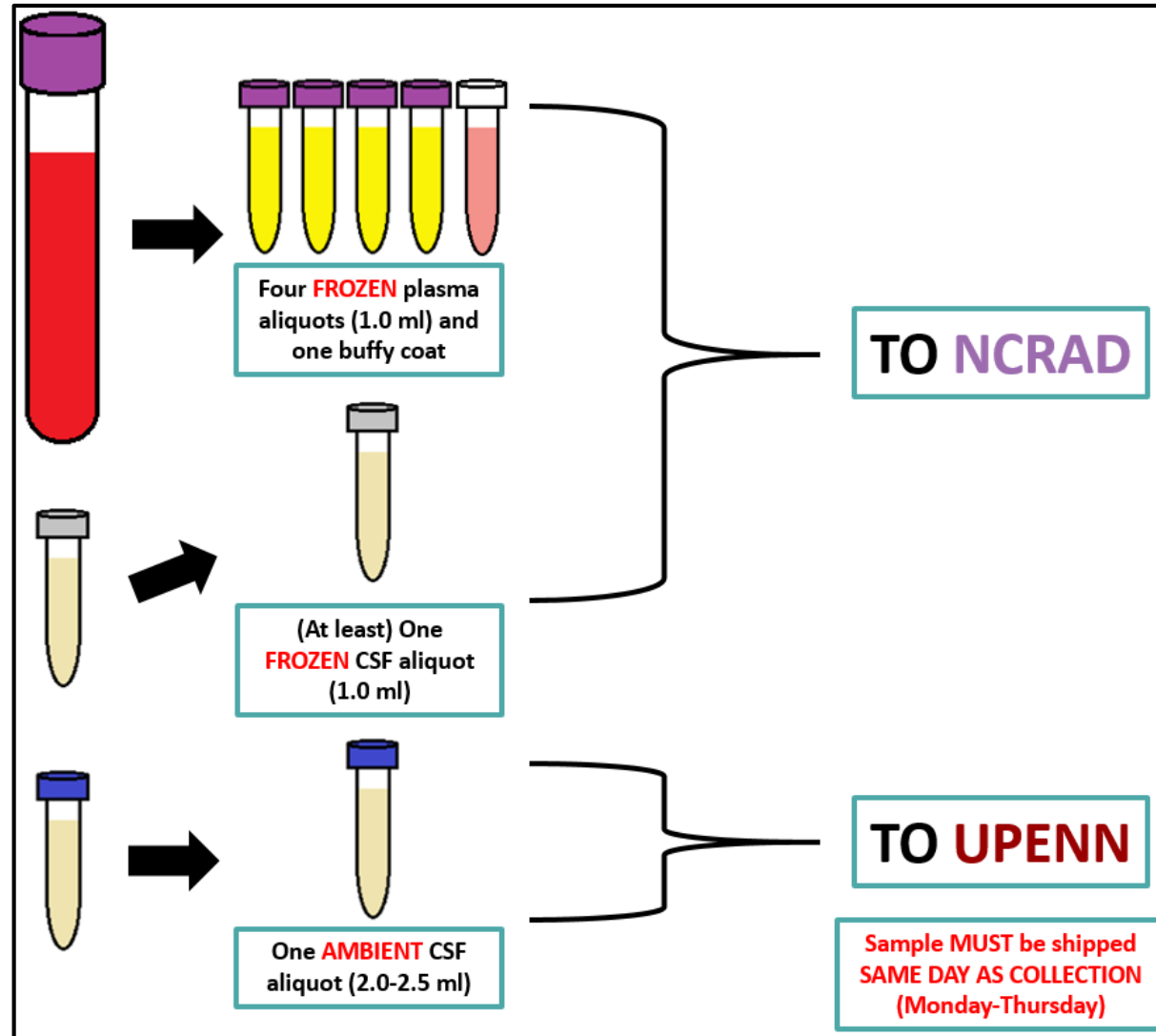
# Sample Shipments

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NCRAD

# Sample Shipment Summary

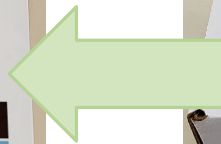
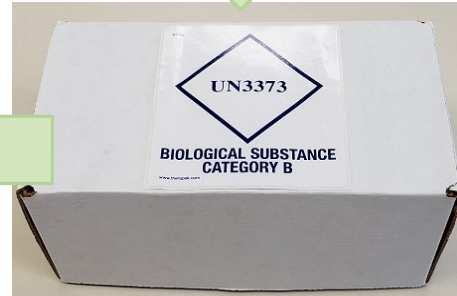
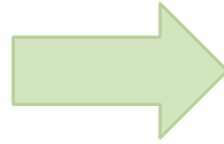


# Ambient Sample

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- One 2.0-2.5 ml CSF sample
- Only Monday-Thursday collection and same day shipping. Plan ahead to schedule UPS.
- Samples must be received at Upenn one day after collection.
- Do NOT draw or ship ambient samples on Friday

# Ambient Shipment Packaging



- Place the ambient CSF tube in the absorbent slot and biohazard bag.
- Place the bag inside the small shipping box, and then set the refrigerant pack on top of it.
- Place small shipping box within a provided UPS Laboratory Pak, seal, and place UPS label on outside of package.

\*Gel packs must be put in a freezer at minimum the night before shipping.

# Ambient Shipment Notification

- Login to website at <https://r3plus.pmacs.upenn.edu/> using provided credentials
- Click the “New Requisition” button:

New Requisition



### Add requisition

Make sure to fill out all information correctly. This action cannot be undone.

**Sending Cerebrospinal Fluid to UPenn under BioSTAC project**

Maximum 15 characters

Maximum 15 characters

Specimen collection date

Maximum 20 characters

Maximum 200 characters

**Shipping instructions:**

Ship \*ambient\* temperature samples Monday-Thursday using 1-day service. Do not use dry ice.

**Submit**

[Go back](#)

NACC ID

NCRAD Kit Number

Collection Date

UPS Tracking Number

Comment (if necessary)

# Frozen Samples

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- **All other samples shipped frozen to NCRAD**
  - Plasma, Buffy Coat, CSF in cryovials
  - **Ship Monday-Wednesday Only**
- Hold packaged samples in a -80°C freezer until pickup
- Batch samples together
  - 3 cryoboxes (3 subjects)
  - **Batch shipping should be performed quarterly or as a full shipment of specimens accumulates, whichever is sooner.**



# Frozen Shipment Packaging



Plasma, Buffy Coat, and  
CSF samples for shipment  
to **NCRAD**

# Frozen Shipment Packaging

- Use the biohazard bag to package the 25-Slot cryobox



Cryovial box placed in clear  
biohazard bag

# Frozen Shipment Packaging

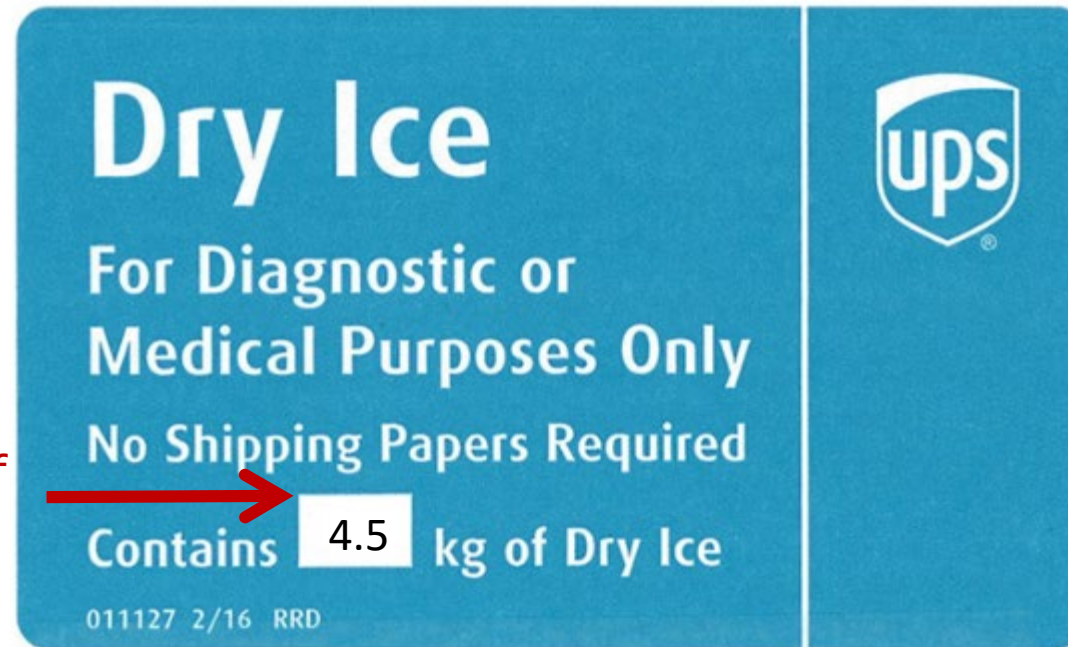


- Place 2-3 inches of dry ice in the bottom of the Styrofoam shipping container, then insert the cryoboxes laying upright.
- Fully cover the cryoboxes with about 2 inches of dry ice in the provided shipper.
- Each Styrofoam shipper must contain about 10 lbs (4.5 kg) of dry ice.

# Frozen Shipment – Dry Ice Requirements

Dry Ice label should not be covered with other stickers and must be completed or the shipping carrier will reject/return your package!

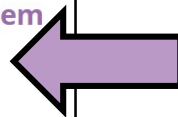
Net weight of  
dry ice in **kg**



# Frozen Shipment Notification

- Go to **NCRAD** website at [https://ncrad.org/resource\\_biostac.html](https://ncrad.org/resource_biostac.html)
- Under the “Additional Resources” header on the right side of the page, select Web-based Sample Form

**Additional Resources**  
BioSTAC Kit Request System  
**Web-based Sample Form**  
Friday Blood Draws  
Shipping Address  
Holiday Closures



Appendix C Blood/CSF Sample Processing Form	
Study: BioSTAC	
Site ID: _____ NACC ID: <u>NACC</u>	Kit #: <div>KIT BARCODE</div>
Sex: <input type="checkbox"/> M <input type="checkbox"/> F Year of Birth: _____	
Date subject last ate: _____ [MMDDYY]	Time subject last ate: _____ [HHMM]
<b>Blood Collection:</b>	
Date of draw: _____ [MMDDYY]	
Time of draw: _____ [HHMM]	
Original volume drawn: _____ ml	
Time spin started: _____ [HHMM]	
Duration of centrifuge: _____ mins	
Temp of centrifuge: _____ °C	
Rate of centrifuge: _____ x g	
Time aliquoted: _____ [HHMM]	
# of 1.0 ml plasma aliquots created: _____	
Time aliquots frozen: _____ [HHMM]	
Storage temperature in freezer: _____ °C	
Buffy coat aliquot created: <input type="checkbox"/> Yes <input type="checkbox"/> No	
<b>Ambient CSF Sample Collection:</b>	
Date of draw: _____ [MMDDYY]	
Time of draw: _____ [HHMM]	
Collection method: <input type="checkbox"/> Gravitational	
<input type="checkbox"/> Quincke	
<input type="checkbox"/> 22g Sprotte	
<input type="checkbox"/> 24g Sprotte	
Needle Used:	
Volume of ambient CSF sample: _____ ml	
Ambient CSF sample barcode (6 digits): _____	
<b>Frozen CSF Sample Collection:</b>	
Collection method: <input type="checkbox"/> Gravitational	
<input type="checkbox"/> Aspiration	
# of 1.0 ml CSF aliquots created for NCRAD: _____	
(if spun) Time spin started: _____ [HHMM] <input type="checkbox"/> N/A	
(if spun) Duration of centrifuge: _____ mins <input type="checkbox"/> N/A	
(if spun) Temp. of centrifuge: _____ °C <input type="checkbox"/> N/A	
(if spun) Rate of centrifuge: _____ x g <input type="checkbox"/> N/A	
Time aliquoted: _____ [HHMM]	
Time aliquots frozen: _____ [HHMM]	
Storage temperature in freezer: _____ °C	
Notes: _____	

# NCRAD Website

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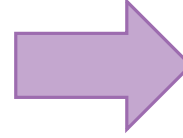
[https://ncrad.org/holiday\\_closures.html](https://ncrad.org/holiday_closures.html)

## Holiday Closures

Date	Holiday
January 1	New Year's Day
3 <sup>rd</sup> Monday in January	Martin Luther King, Jr Day
4 <sup>th</sup> Monday in May	Memorial Day
July 4	Independence Day (observed)
1 <sup>st</sup> Monday in September	Labor Day
4 <sup>th</sup> Thursday in November	Thanksgiving
4 <sup>th</sup> Friday in November	Friday after Thanksgiving
December 25	Christmas

# Nonconformance Issues

Sample aliquots and collection tubes frozen at an angle/inverted



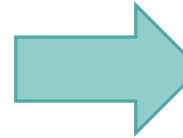
**Recommendation:**

Place aliquots in cryoboxes in freezer *upright* until shipment

Fields left blank on Blood/CSF Sample Processing Form

Last time subject ate often left blank/unknown

Incorrect data reported on Sample Forms



**Recommendation:** Complete Sample forms during the participant study visit as samples are processed.

Multiple low volume aliquots



**Recommendation:**

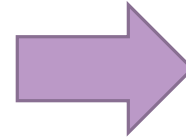
Lay out cryovials in a row and aliquot in order until sample is depleted



# Nonconformance Issues

All frozen samples for a participant not sent within one shipment box (plasma, buffy coat, and CSF aliquots should be kept together)

Aliquots arriving to UPenn or NCRAD without labels

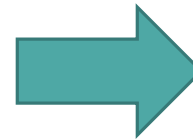


**Recommendation:**

Ship Samples to NCRAD utilizing the Notification Form, by subject.

Do not throw away labels until samples are packed and shipped.

Ambient CSF sample not shipped to UPenn the day of collection



**Recommendation:**

Ensure all ambient CSF samples are shipped by end of the day.



# Contact Information

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## Kaci Lacy

- Phone: (317) 278-1170
- E-mail: [lacy@iu.edu](mailto:lacy@iu.edu)

## General NCRAD Contact

- Phone: (800) 526-2839
- E-mail: [alzstudy@iu.edu](mailto:alzstudy@iu.edu)
- Website: [www.ncrad.org](http://www.ncrad.org)