

ALLFTD Manual of Procedures Update: Version 07.2025

Section	Change
Document Footer	The version date was updated for this amendment.
Throughout Document	<p>For blood kits, the ALLFTD Study <i>used</i> to collect 2 NaHep 10mL tubes, 3 EDTA 10mL tubes, 2 RNA PAXgene 10mL tubes, and 1 Serum 10mL tubes along with corresponding cryovials; for CSF kits, the ALLFTD Study <i>used</i> to collect approximately 20-25mLs of CSF in corresponding cryovials and ship all samples to NCRAD.</p> <p>Effective July 1, 2025, the ALLFTD Study will no longer support the collection of CSF solely for the purposes of the ALLFTD Research Study and blood collection will only include 3 EDTA 10mL tubes and corresponding cryovials.</p> <p>Therefore, throughout this document the following changes have been made: the removal of PBMC, PBMC redraws, RNA, and Serum collection/aliquoting; the updated CSF collection process.</p>
1.0	Removal of abbreviations that apply to PBMC, RNA, Serum, and Lumbar Puncture.
4.4.1	Removal of PBMC, RNA, and Serum from Blood kits.
4.4.2	CSF collection updated to remove LP Trays and 13 orange capped cryovials.
5.0	Removal of supplies that correspond with PBMC, RNA, and Serum collection.
7.0	Removal Lumbar Puncture instructions.
8.0	Edited ambient shipping details to only pertain to redraw/take home kits.
10.0	Removal of PBMC, RNA, and Serum from Blood Sample Notification form and updated the CSF Notification form to include details of the research study supporting the LP.



ARTFL LEFFTDS Longitudinal Frontotemporal Lobar Degeneration (ALLFTD)

in collaboration with the

**National Centralized Repository for
Alzheimer's Disease and Related Dementias**



Biospecimen Collection, Processing, and Shipment Manual

Version (07.2025)

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1.0 Abbreviations

ALLFTD	ARTFL LEFFTDS Longitudinal Frontotemporal Lobar Degeneration
CITI	Collaborative Institutional Training Initiative
CSF	Cerebrospinal Fluid
DNA	Deoxyribonucleic Acid
EDTA	Ethylene Diamine Tetra-acetic Acid
IATA	International Air Transport Association
IUGB	Indiana University Genetics Biobank
NCRAD	National Centralized Repository for Alzheimer’s Disease and Related Dementias
RBC	Red Blood Cells
RCF	Relative Centrifugal Force
RPM	Revolutions Per Minute

2.0 Purpose

The purpose of this manual is to provide ALLFTD staff (PIs, study coordinators, and the sample collection and processing teams) at the various study sites with instructions for collection and submission of biological samples for ALLFTD study visits. It includes instructions for biospecimen submission to the National Centralized Repository for Alzheimer’s disease and Related Dementias (NCRAD) located at Indiana University. The following samples may be collected at each study visit:

- Plasma
- Buffy Coat (for DNA extraction)
- CSF

This manual includes instructions for collection of blood and CSF, fractionation of blood from collection tubes, aliquoting, labeling, storage prior to shipping, and shipping to NCRAD.

These procedures are relevant to all study personnel responsible for processing blood specimens to be submitted to NCRAD for the ALLFTD protocol.

3.0 NCRAD Information

3.1 NCRAD Contacts

Tatiana Foroud, PhD, Core Leader

Phone: 317-274-2218

Kelley Faber, MS, CCRC, Project Manager

Phone: 317-274-7360

Email: kelfaber@iu.edu

Corinne Kim, MA, CCRC, Project Manager

Phone: 317-274-7417

Email: kimcor@iu.edu

Jazmyn Dickinson, Study Coordinator

Email: jazdicki@iu.edu

General NCRAD Contact Information

Phone: 1-800-526-2839 or 317-278-8413

Fax: 317-321-2003

Email: alzstudy@iu.edu

Website: www.ncrad.org

ALLFTD Study Specific Webpage: <https://ncrad.org/coordinate-studies/allftd>

Sample Shipment Mailing Address

ALLFTD at NCRAD
 Indiana University School of Medicine
 351 W. 10th St TK-217
 Indianapolis, IN 46202
 Phone: 1-800-526-2839

3.2 NCRAD Hours of Operation

Indiana University business hours are from 8 AM to 5 PM Eastern Time, Monday through Friday.

Frozen samples must be shipped **Monday-Wednesday only**. Ambient samples must be shipped **Monday-Thursday only**.

For packing and shipment details of frozen samples, please refer to [Section 8.0](#) of this protocol.

Check the weather report to make sure impending weather events (blizzards, hurricanes, etc.) will not impact the shipping or delivery of the samples.

3.3 NCRAD Holiday Observations

Date	Holiday
January 1	New Year's Day
3 rd Monday in January	Martin Luther King, Jr Day
4 th Monday in May	Memorial Day
June 19	Juneteenth
July 4	Independence Day
1 st Monday in September	Labor Day
4 th Thursday in November	Thanksgiving
4 th Friday in November	Friday after Thanksgiving
December 25	Christmas Day
December 26-31	Winter Break

Please note that between December 24th and January 2nd, Indiana University will be open Monday through Friday for essential operations **ONLY** and will re-open for normal operations on January 2nd. If at all possible, biological specimens for submission to Indiana University should **NOT** be collected and shipped to Indiana University after the **second week in December**. Should it be necessary to ship blood samples for DNA extraction to Indiana University during this period, please contact the Indiana University staff before December 20th by e-mailing alzstudy@iu.edu, so that they can arrange to have staff available to process incoming samples. **Please see:** https://ncrad.org/holiday_closures.html for additional information.

- Please note that courier services may observe a different set of holidays.
- Please be sure to verify shipping dates with your courier prior to any holiday.
- **Weekend/holiday delivery must be arranged in advance with NCRAD staff.**

4.0 ALLFTD Laboratory Collection

4.1 Site Required Equipment

The following materials and equipment are necessary for the processing of specimens at the collection site and are to be **supplied by the local site**:

- Personal Protective Equipment: lab coat, nitrile/latex gloves, safety glasses
- Tourniquet
- Alcohol Prep Pad
- Gauze Pad
- Bandage
- Butterfly needles and hub
- Microcentrifuge tube rack
- Sharps bin and lid
- Wet ice bucket
- Wet ice

In order to process samples consistently across all projects and ensure the highest quality samples possible, project sites must have access to the following equipment:

- Centrifuge capable of ≥ 1500 rcf (1500 x g) with refrigeration to 4°C
- -80°C Freezer

In order to batch-ship frozen specimens, you must provide:

- Pelleted dry ice (approximately 45 lbs per shipment)

4.2 Biospecimens Sent to NCRAD

Frozen samples are to be submitted according to the shipping methods outlined in [Section 8.1](#). Guidelines for the processing, storage location, and timing of sample collection are listed by site in the tables below.

Biospecimens collected include whole blood and CSF. Please refer to the below table for the biospecimen schedule for both the Longitudinal and Biofluid-Focused Arm.

	RAVE Cycle (ALL)
Plasma	X
DNA (Buffy Coat)	X
CSF*	X

*Optional for all participants

Whole blood will be collected into lavender-top EDTA tubes.

The lavender-top EDTA tubes are processed locally into plasma and buffy coat fractions, aliquoted, frozen at the study site, and then shipped to NCRAD.

CSF will be aliquoted locally, frozen at the study site, and then shipped to NCRAD.

Frozen samples (plasma, buffy coat, and CSF) are to be submitted according to the shipping methods outlined in [Section 8.1](#). Guidelines for the processing, storage location, and timing of sample collection are listed in the tables below.

4.3 Informed Consent

Consent forms must specify that any biological samples and de-identified clinical data may be shared with academic and/or industry collaborators through NCRAD. A copy of the consent form for each participant should be kept on file by the site investigator.

4.4 Biospecimen Collection Charts

4.4.1 Blood Collection

If a sample is not obtained at a particular visit, this should be recorded in the notes section of the **Biological Sample and Shipment Notification Form** (see [Appendix B](#)). Submit a copy to NCRAD with a reason provided for the omission. See [Appendix H](#) if the sample collection below cannot be followed for a Biofluid-Focused Arm Visit.

Sample Type	Tube Type	Study Visits Collecting Biospecimens	Number of Tubes Supplied in Kit	Processing/ Aliquoting	Typical # of tubes sent to NCRAD	Ship
Whole blood for isolation of plasma & buffy coat (for DNA extraction)	EDTA (Lavender-Top) Blood Collection Tube (10 ml)	All Cycles	3	3	N/A	N/A
	PLASMA: 2 ml cryovials with lavender caps (residual volume placed in 2 ml cryovial with blue cap)	All Cycles	10 (9 Lavender Cap, 1 Blue Cap Cryovial)	1.5 ml plasma aliquots per 2.0 ml cryovial	8-10	Frozen
	BUFFY COAT: 2 ml cryovial with a clear cap	All Cycles	3	1 ml buffy coat aliquot per 2.0 ml cryovial	3	Frozen

* Please refer to the table in [Section 4.2](#) for another view of the specimen collection schedule

4.4.2 Cerebrospinal Fluid

If a CSF sample *is or is not* obtained at a particular visit, this should be recorded in the CSF section of the **Biological Sample and Shipment Notification Form** (see [Appendix C](#)).

Sample Type	Tube Type	Study Visit Collecting Biospecimens	Number of Tubes Supplied in Kit	Processing/ Aliquoting	Typical # of tubes to NCRAD	Ship
CSF	15 ml screw top centrifuge tubes with blue caps	All participants in the longitudinal and biofluid arm	2	N/A	N/A	N/A
	2 ml cryovial with orange caps (residual volume placed in 2 ml cryovials with blue caps)	All participants in the longitudinal and biofluid arm	4 (3 Orange Cap, 1 Blue Cap Cryovial)	1.5 ml CSF aliquots per 2 ml cryovials	3-4	Frozen

5.0 Specimen Collection Kits, Shipping Kits and Supplies

There are 6 ALLFTD research specimen collection kits, they are:

- Blood Kit (for both Longitudinal and Biofluid-Focused Arm Visits)
- CSF Kit (for both Longitudinal and Biofluid-Focused Arm Visits)
- Shipping Kit for Frozen Samples
- Take Home/Redraw Kit for Lavender Top- EDTA Tube
- ALLFTD Supplemental Supplies Kit

Research specimen collection kits as well as clinical lab supplies (except pelleted dry ice and equipment supplies listed above in Section 4.1) will be provided by NCRAD. These materials include blood tubes, boxes for plasma/buffy coat/CSF aliquots storage and shipment, as well as partially completed shipping labels to send materials to NCRAD. Barcoded kit labels, site and RAVE ID labels, collection tube labels, and aliquot tube labels will all be provided by NCRAD. Collection tube labels and aliquot tube labels will be pre-printed with study information specific to the type of sample being drawn. Ensure that all tubes are properly labeled during processing and at the time of shipment according to [Section 6.1](#).

5.1 NCRAD Specimen Collection Kit Contents

Collection kits contain the following (for each participant) and provide the necessary supplies to collect samples from a given participant. Do not replace or supplement any of the tubes or kit components provided with your own supplies unless you have received approval from the NCRAD Study team to do so. Please store all kits at room temperature until use.

ALLFTD Blood Kit (for both the Longitudinal and Biofluid-Focused Arms)

Quantity	ALLFTD Blood Kit Components
3	EDTA (Lavender-Top) Blood Collection Tube (10 ml)
1	Screw-top conical tube with blue cap (50 ml)
9	Cryovial tube (2 ml) with lavender cap
1	Cryovial tube (2 ml) with blue cap
3	Cryovial tube (2 ml) with clear cap
2	Disposable graduated transfer pipette
13	Pre-printed labels for blood collection and aliquot tubes
3*	Pre-printed labels with kit number
4**	Labels for handwritten Site and RAVE ID
1	Cryovial tube box (holds up to 25 cryovials)

***1 label for frozen shipment form, 1 labels for frozen biohazard bag, 1 label for cryobox**

****3 RAVE ID labels used for EDTA blood collection tube, 1 extra**

ALLFTD CSF Kit (optional)

Quantity	ALLFTD CSF Kit Components
3	Cryovial tube (2 ml) with orange cap
1	Cryovial tube (2 ml) with blue cap
2	Screw-top conical tube with blue cap (15ml) sterile
1	Disposable graduated transfer pipette
1	Cryovial tube box (holds up to 25 cryovials)
4	Pre-printed labels for CSF collection and aliquot tubes
4*	Pre-printed labels with kit number

*1 label for frozen shipment form, 1 labels for frozen biohazard bag, 1 label for cryobox

Frozen Shipping Supply Kit

Quantity	Frozen Shipping Kit Components
8	Small plastic Biohazard bag with absorbent sheets
1	Shipping box/Styrofoam container (fits up to 8 cryoboxes)
1	Warning label packet with dry ice sticker

Small Frozen Shipping Supply Kit

Quantity	Frozen Shipping Kit Components
3	Small plastic Biohazard bag with absorbent sheets
1	Shipping box/Styrofoam container (fits up to 3 cryoboxes)
1	Warning label packet with dry ice sticker

Lavender Top-EDTA Tube Redraw/Take Home Kit (optional/as needed)

Quantity	Ambient Shipping Supply Components
1	EDTA (Lavender-Top) Blood Collection Tube (10 ml)
1	Pre-printed label for blood collection tube
1	Label for handwritten Site and RAVE ID
2*	Pre-printed labels with kit number
1	Shipping Supplies for ambient shipment of EDTA: Plastic biohazard bag with absorbent sheet Small IATA shipping box with insulated cooler Small refrigerant pack Aqui-Pak 1 tube absorbent pouch UN3373 Biological Substance Category B label List of contents card UPS Clinic Pak

* 1 label for ambient shipment form, 1 label for biohazard bag

ALLFTD Supplemental Supply Kit

Quantity	ALLFTD Supplemental Kit Components
10	EDTA 10ml collection tube
50	Cryovial, 2ml, lavender cap, assembled
25	Cryovial, 2ml, clear cap, assembled
10	Cryovial, 2ml, blue cap, assembled
10	Cryovial tube (2ml) no cap
10	Orange cap
5	50ml Conical (unwrapped)
6	15ml Conical (individually wrapped)
5	Disposable pipet (3ml)
5	Cardboard Cryobox, 25 cell
5	Fragile sticker
5	UN3373 sticker
5	UPS dry-ice label
5	Small biohazard bag w/ absorbent sheet
2	Resealable bag
2	2x4 Kit bag label

We realize there may be instances where additional supplies are needed; therefore, one supplemental kit will be provided with the initial kit shipment. Replacement supplemental kits can be requested on the kit web site. In addition, individual supplies can be requested. The following table lists all individual supplies that can be requested and the quantities at which they are available.

Individual Supplies*

Quantities	Item
5 or 10	Microcentrifuge tube box (holds up to 25 cryovials)
10, 25	Cryovial tube (2 ml) with blue cap
10, 25	Cryovial tube (2 ml) with orange cap
10, 25	Cryovial tube (2 ml) with clear cap
25, 50	Cryovial tube (2 ml) with lavender cap
1, 2, 3	Shipping container for dry ice shipment (shipping and Styrofoam box)
5, 10	Individually Packaged Sterile 50ml Conical Tube
5, 10	Plastic biohazard bag
5, 10, 15	EDTA (Lavender-Top) Blood Collection Tube (10 ml)
30, 60	Disposable graduated transfer pipette
5, 10	Warning label packet
By Request	RAVE ID label

*Available upon request on the kit web-site

5.2 Kit Supply at Study Sites

Each individual site will be responsible for ordering and maintaining a steady supply of kits from NCRAD. We advise sites to keep a supply of each kit type available. Be sure to check your supplies and order additional materials before you run out so you are prepared for study visits; it can take up to 3 weeks for requested kits/supplies to be delivered to you. Please go to: <http://kits.iu.edu/allftd> to request additional kits and follow the prompts to request the desired supplies.

Options include ordering specific number of kits (ALLFTD Blood Kit, Optional NCRAD CSF, Frozen Shipping Supply Kit and/or an ALLFTD Supplemental Kit) or individual supplies. All kits can be used for any ALLFTD participant in either the Longitudinal or Biofluid-Focused Arms.

Please allow **THREE weeks** for kit orders to be processed and delivered.

6.0 Blood Collection and Processing Procedures

*****Important Note*****

In order to ensure the highest quality samples are collected, processed, and stored, it is essential to follow the specific collection, processing, and shipment procedures detailed in the following pages. Please read the following instructions first before collecting any specimens. Have all your supplies and equipment out and prepared prior to drawing blood. Draw blood in the following order:

- 1. EDTA (Lavender-Top) Blood Collection Tube (10 ml) for Buffy Coat and Plasma (3)**

SPECIFIC INSTRUCTIONS FOR COLLECTION AND PROCESSING OF EACH SAMPLE ARE DETAILED ON THE FOLLOWING PAGES.

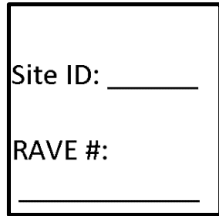
6.1 Labeling Samples for NCRAD

****Label Type Summary****

1. Kit Number Label
2. Site and RAVE ID Label
3. Collection and Aliquot Tube Labels



Kit Number Labels link all specimens collected from a single participant at one visit. They should be placed in the designated location on the Sample and Shipment Notification Form (either Blood or CSF). There will be a different Kit Number for the Blood Kit and the CSF Kit. The Kit Number Label will also need to be placed on the corresponding patient’s cryovial box and biohazard bag, which can be used for storage and is required for sending as a frozen BATCH shipment to NCRAD.



Site and RAVE ID Labels are used to document the individual’s unique RAVE ID. They are placed on each of the 3 EDTA 10ml collection tubes. ALLFTD staff will write-in the Site ID and participant’s RAVE ID.



Place the **COLLECT** label on the collection tube. Each collection tube will contain two labels: the **Site and RAVE ID Label** and the **Collection Tube Label**. (Pictured below). Note: The Collection Tube Labels intended for the CSF tubes will contain a kit number differing from the patient’s other cycle specimens.



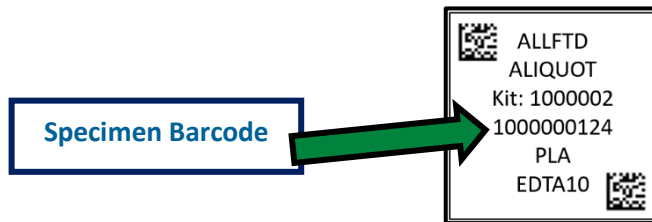
Place the **ALIQUOT** labels on the aliquot tube.

Note: The Aliquot Tube Labels intended for the CSF tubes will contain a kit number differing from the patient’s other cycle specimens.

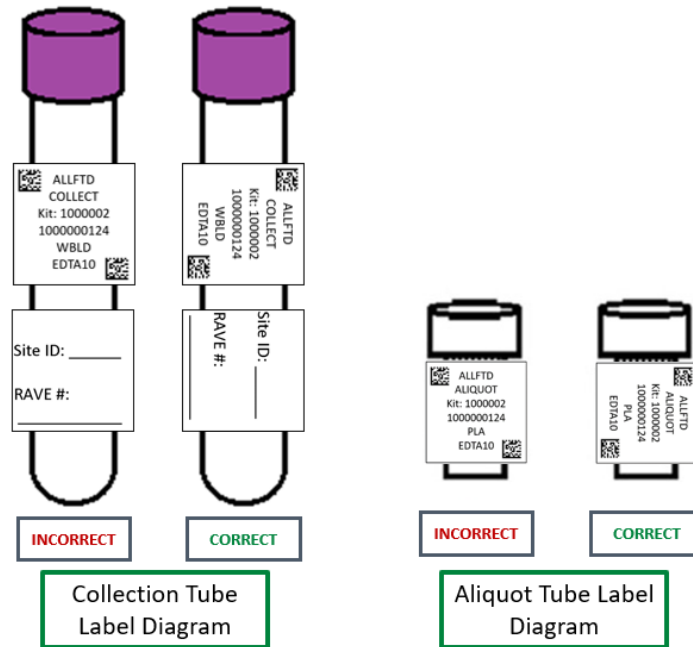


In order to ensure the label adheres properly and remains on the tube, please follow these instructions:

- Place Specimen Labels on **ALL** collection and aliquot tubes **BEFORE** sample collection, sample processing, or freezing. This should help to ensure the label properly adheres to the tube before exposure to moisture or different temperatures.
- Place cryovials in cryovial box in numerical order based on the specimen number, located at the top of the label. This ensures that no aliquot is misplaced or lost during the shipment process (see depiction below).



- Using a fine point permanent marker, fill-in and then place the Site and RAVE ID labels on the collection tubes only (EDTA 10 ml tube). For best adhesion results place the label on the tubes **BEFORE** sample collection, processing, or freezing. **DO NOT** place Site and RAVE ID labels on any NCRAD cryovials.
- There will be 2 types of labels on all collection tubes: Site and RAVE ID Labels and Collection and Aliquot Tube Label
- The Collection and Aliquot Tube Labels contain a 2D barcode on the left hand side of the label. Place this barcode toward the tube cap.



- Always place the label **horizontally** on the aliquot tube (wrapped around sideways if the tube is upright) and **just below the ridges** of the aliquot tubes (see attached labeling diagram).
- Take a moment to ensure the label is **completely adhered** to each tube. It may be helpful to roll the tube between your fingers after applying the label.

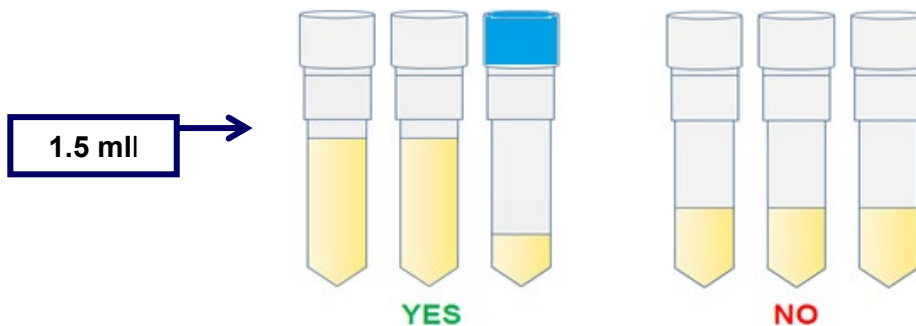
6.2 Video List

- NCRAD offers training videos that are available to assist you with the specimen processing, aliquoting, and shipping processes. The videos are available at https://ncrad.org/resource_allftd.html.
 - Frozen Shipping
 - Plasma and Buffy Coat Processing and Aliquoting
 - CSF Processing and Aliquoting
 - ALLFTD MOP Training

6.3 Filling Aliquot Tubes (Plasma)

In order to ensure that NCRAD receives a sufficient amount of sample for processing and storage, and to avoid cracking of the tubes prior to shipment, each aliquot tube should be filled to the assigned volume after processing is completed (refer to detailed processing instructions for average yield per sample). Over-filled tubes may burst once placed in the freezer, resulting in a loss of sample.

Aliquot the remaining biologic material into a blue-cap residual tube and ship to NCRAD. Ship *all* material to NCRAD. Fill as many aliquot tubes as possible. For example, if 2.7 ml of a plasma sample is obtained, fill 1 cryovial tube with 1.5 ml, and one additional cryovial tube with the remaining 1.2 ml.



Please note: It is critical for the integrity of future studies using these samples that study staff note if an aliquot tube contains a residual volume (anything under 1.5 ml). Please highlight that the aliquot contains a small volume by utilizing the blue cryovial cap provided in each kit. Please record the last four digits of the residual aliquot on the Biological Sample and Notification Form.

If there are any unused cryovials, please do not send the empty cryovials to NCRAD. These unused cryovials (ensure labels are removed) can be saved as part of a

supplemental supply at your site or the cryovials can be disposed of per your site’s requirements.

To assist in the preparation and aliquoting of samples, colored caps are used for the aliquot tubes. The chart below summarizes the association between cap color and type of aliquot.

Cap Color	Sample Type
Lavender	Plasma
Clear	Buffy Coat
Orange	CSF Aliquot
Blue	Residual Aliquot (Plasma or CSF)

6.4 EDTA (Lavender-Top) Blood Collection Tube (10 ml) for Plasma and Buffy Coat

Whole Blood Collection for Isolation of Plasma and Buffy Coat: three EDTA (Lavender-Top) Blood Collection Tubes (10 ml) (for processing of plasma aliquots and buffy coat aliquots). Three lavender-top tubes are collected at every study visit (both Longitudinal and Biofluid-Focused Arms) obtaining biospecimens.

1. Store empty EDTA tubes at room temperature, 64°F - 77°F (18 °C – 25 °C) before use.
2. Set centrifuge 4°C to pre-chill before use. Please note that the centrifuge could take 30 minutes to chill completely.
3. Place completed Site and RAVE ID and pre-printed “**PLASMA**” *collection tube label* on the three EDTA (Lavender-Top) Blood Collection Tubes (10 ml). Place pre-printed “**PLASMA**” *aliquot labels* on the (10) 2 ml cryovial tubes with lavender caps. Place pre-printed “**BUFFY COAT**” aliquot label on the (3) 2 ml cryovials with a clear cap.
4. Please ensure that aliquots are kept in numerical order (by specimen number) throughout the aliquoting and shipping process, from left to right.
5. Using a blood collection set and a holder, collect blood into the **three 10 ml EDTA tubes** using your institution's recommended procedure for standard venipuncture technique.

The following techniques shall be used to prevent possible backflow:

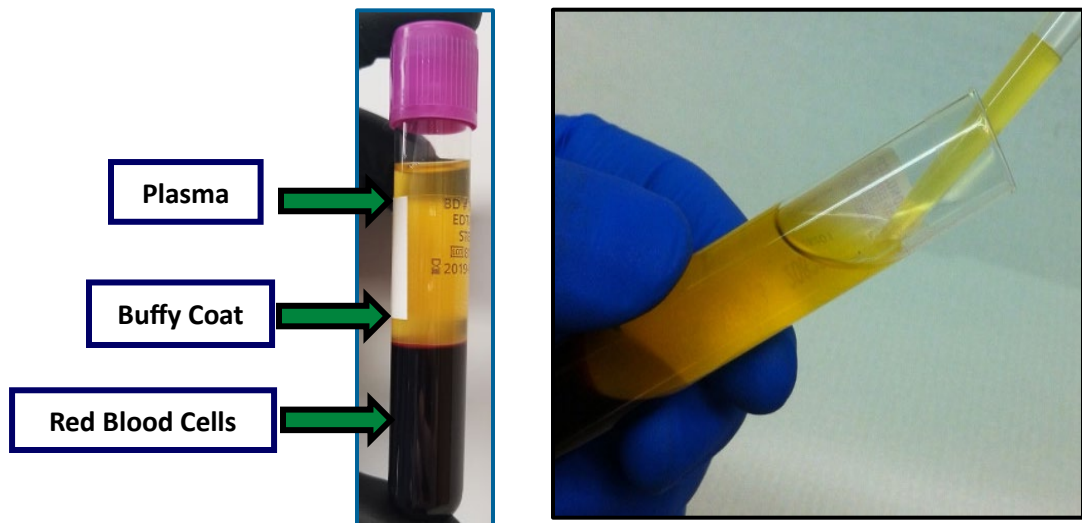
- a. Place donor's arm in a downward position.
- b. Hold tube in a vertical position, below the donor’s arm during blood collection.
- c. Release tourniquet as soon as blood starts to flow into last collection tube.
- d. Make sure tube additives do not touch stopper or end of the needle during venipuncture.

6. Allow at least 10 seconds for a complete blood draw to take place in each tube. **Ensure that the blood has stopped flowing into the tube before removing the tube from the holder.** The tube with its vacuum is designed to draw 10 ml of blood into each tube.
7. Immediately after blood collection, gently invert/mix (180 degree turns) the EDTA tube 8-10 times.
8. Immediately after inverting the EDTA tube, place it on wet ice until centrifugation begins.



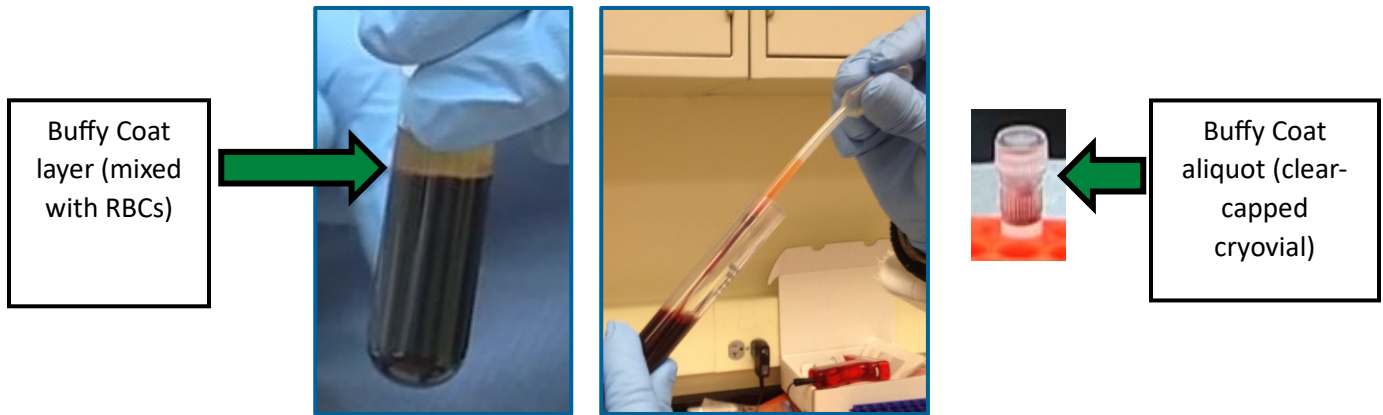
9. Centrifuge balanced tubes for 15 minutes at 1500 RCF ($\times g$) at 4°C. **It is critical that the tubes be centrifuged at the appropriate speed and temperature to ensure proper plasma separation (see worksheet in Appendix A to calculate RPM in your particular rotor).**
 - a. Equivalent rpm for spin at 1500 $\times g$
 - b. While centrifuging, remember to record all times, temperatures and spin rates on the Blood Sample and Shipment Notification Form.
 - c. Record time aliquoted on the Blood Sample Shipment and Notification Form.
 - d. Plasma samples need to be spun, aliquoted, and placed in the freezer within 2 hours from the time of collection.
10. Remove the plasma by tilting the tube and placing the pipette tip along the lower side of the wall, being careful not to agitate the packed blood cells at the bottom of the collection tube.

- Each EDTA tube should yield, on average, 4-5 ml of plasma. Using a disposable graduated transfer pipette, transfer plasma from all three EDTA tubes into a 50 ml conical tube and gently invert 3 times. Aliquot 1.5 ml plasma per cryovial. Be sure to only place **plasma** in cryovials with purple caps and labeled with **PLASMA** labels. Place residual plasma (<1.5 ml) in the blue-capped cryovial. **If a residual aliquot (<1.5 ml) is created, document the specimen number and volume on the Biological Sample and Shipment Notification Form.**



NOTE: When pipetting plasma from the plasma tube into the cryovials, be very careful to pipette the plasma top layer only, leaving the buffy coat and the red blood cell layers untouched.

- Place the labeled cryovials in the 25-cell cryobox and place on dry ice. **Transfer to -80°C Freezer when possible.** Store all samples at **-80°C until shipped** to NCRAD on dry ice. Record time aliquots placed in freezer and storage temperature of freezer on Biological Sample Shipment and Notification Form.
- After plasma has been removed from the EDTA (Purple-Top) Blood Collection Tubes (10 ml), aliquot the buffy coat layer (in the top layer of cells, the buffy coat is mixed with RBCs - see figure) from one EDTA tube into a labeled, clear-capped cryovial using a clean disposable transfer pipette. The buffy coat from each EDTA tube will be placed in a separate 2.0 ml cryovial with clear cap, so a total of three buffy coat aliquots will be submitted to NCRAD per participant, per visit. The buffy coat aliquot is expected to have a reddish color from the included RBCs. Be sure to place the buffy coat into the cryovial with the clear cap and "BUFFY COAT" label. Please place the buffy coat from only one blood tube in each cryovial.

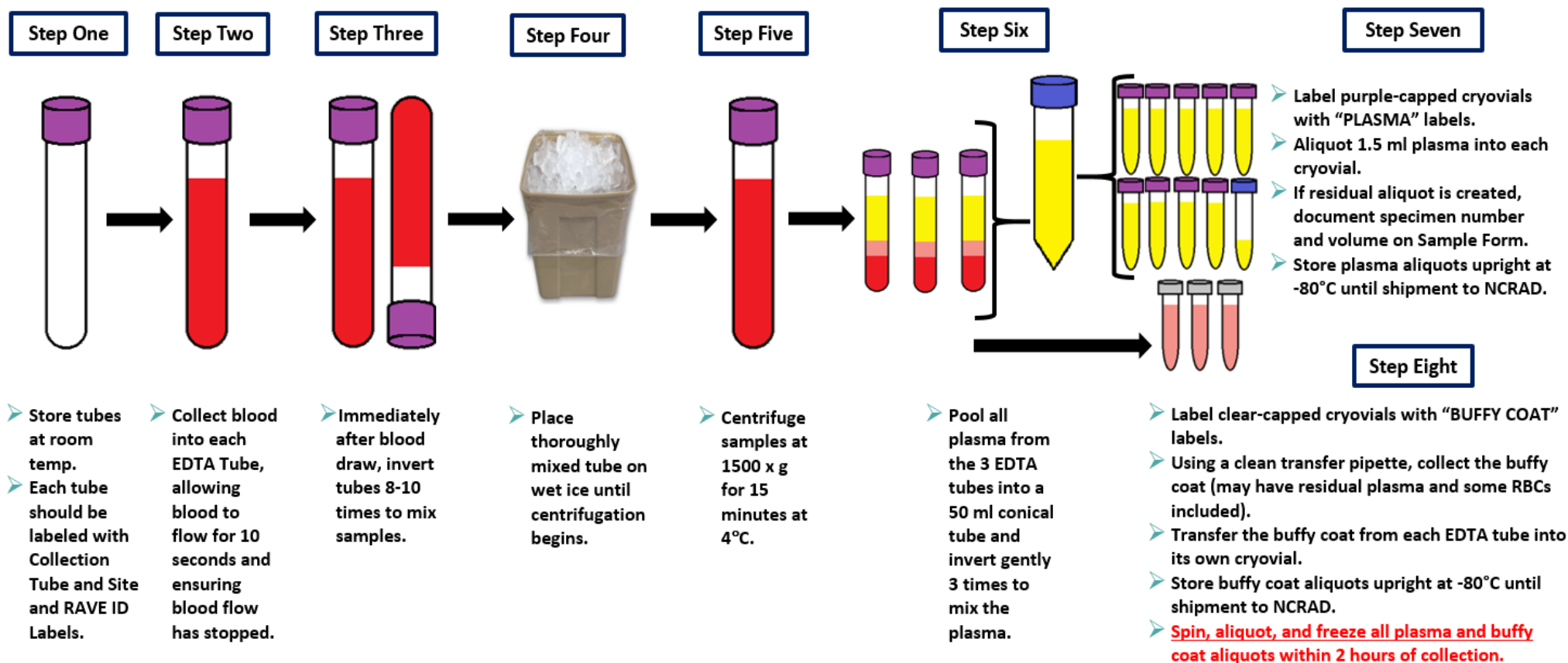


14. Dispose of collection tube with red blood cell pellet according to your site's guidelines for disposing of biomedical waste.
15. Record the specimen number and volumes of the EDTA tubes and corresponding buffy coat samples on the Biological Sample Shipment and Notification Form.
16. Place the labeled cryovials in the 25 cell cryobox and place on pelleted dry ice. **Transfer to -80°C Freezer when possible.** Store all samples at -80°C until shipped to NCRAD on pelleted dry ice. Record time aliquots placed in freezer and storage temperature of freezer on Biological Sample and Shipment Notification Form.



Plasma Aliquots (up to 10 possible with 1 residual) and 3 Buffy Coats

Plasma and Buffy Coat Preparation (10 ml EDTA Purple-Top Tube x 3)



Important Note: Ensure all tubes are not expired prior to collection and processing of samples.

6.8 Sample Redraws

There may be situations that arise that require a patient sample to be redrawn from certain cycles/visits. At those times, NCRAD study staff will alert site coordinators that a participant sample has failed and should be redrawn. This can happen for several reasons, including insufficient blood at the time the sample was drawn, temperature storage extremes, or even shipping errors.

Tubes that may be redrawn using the redraw kit include the EDTA (Lavender-Top) Blood Collection Tube (10 ml). **These tubes should be sent back to NCRAD ambient and unprocessed.**

Please note: The EDTA (Lavender-Top) Blood Collection Tube (10 ml) may be drawn any day of the week. If an EDTA tube is drawn on a Friday, please hold at room temperature until it can be shipped the following Monday. Samples drawn on Monday-Thursday, can be shipped on the same day as the blood draw.

A sample redraw may occur in one of two ways:

1. The participant travels back to the ALLFTD site and the coordinator redraws the blood and ships it ambient back to NCRAD.

OR

2. The site staff sends a blood kit directly to the participant's home for the blood draw to be completed by their local phlebotomist or physician. The kit is then shipped ambient by the participant or physician directly to NCRAD.

Please see [Appendix D](#) for Biological Shipping Forms for participants who are provided blood kits for their local physicians.

7.0 Cerebrospinal Fluid Collection

Important Note

CSF should ideally be collected in the morning between 8am – 10am, preferably fasted. If fasting is not feasible, the low-fat diet should be followed (See [Appendix C](#)). Record the time of last meal.

7.1 CSF Collection

Effective July 1, 2025, ALLFTD will no longer support the collection of CSF solely for the purposes of the ALLFTD Research Study. However, if CSF is collected as part of a *co-enrollment research program*, ALLFTD and NCRAD request that the site provides notification of the co-enrollment, details of the CSF collection, and the collection and processing protocol associated with the co-enrolled study at the time of collection. This information can be filled out on the NCRAD CSF form (Appendix C) and sent to alzstudy@iu.edu. If CSF is being collected through another research study, please follow that study's SOP for collection and processing and note in detail on the fields provided in appendix C.

Do not send conical tubes used to collect CSF to NCRAD. Discard according to local guidelines. Collection and processing site staff may write on this conical tube for their own reference.

If it is possible to obtain some CSF during a Lumbar Puncture happening for another research study, the ALLFTD study would like 3-4 x 1.5mL aliquots sent to NCRAD, but will accept as few as 2 x 1.5mL aliquots. NCRAD will provide orange top cryovials, a blue cap cryovial, 15ml conicals, a transfer pipette, and specimen and kit labels for these specimens.

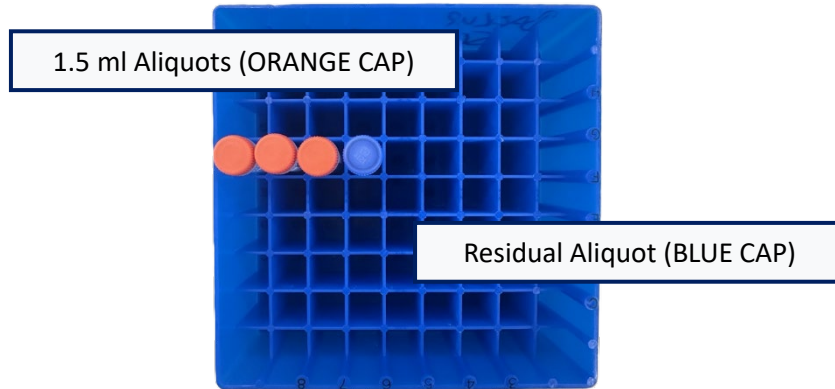
7.2 Maintaining the Sterile Field

1. Keep in mind that there is usually a lot of staff in the room during an LP, and a big part of assisting with the LP is keeping the field sterile—keeping people away from it, and reminding them to be careful around it. If anyone touches the inside of the paper wrapper or any part of the contents of the kit, throw away the kit away and start over. If there is any doubt as to whether someone touched the kit, throw it away and start over. Also, you are the monitor for whether the person performing the LP has broken sterility usually by touching something not sterile with a sterile gloved hand. Feel free to speak up and inform people if need be. Be assertive.

- a. Place aliquot tubes on wet ice prior to the procedure so they are pre-cooled (See below):

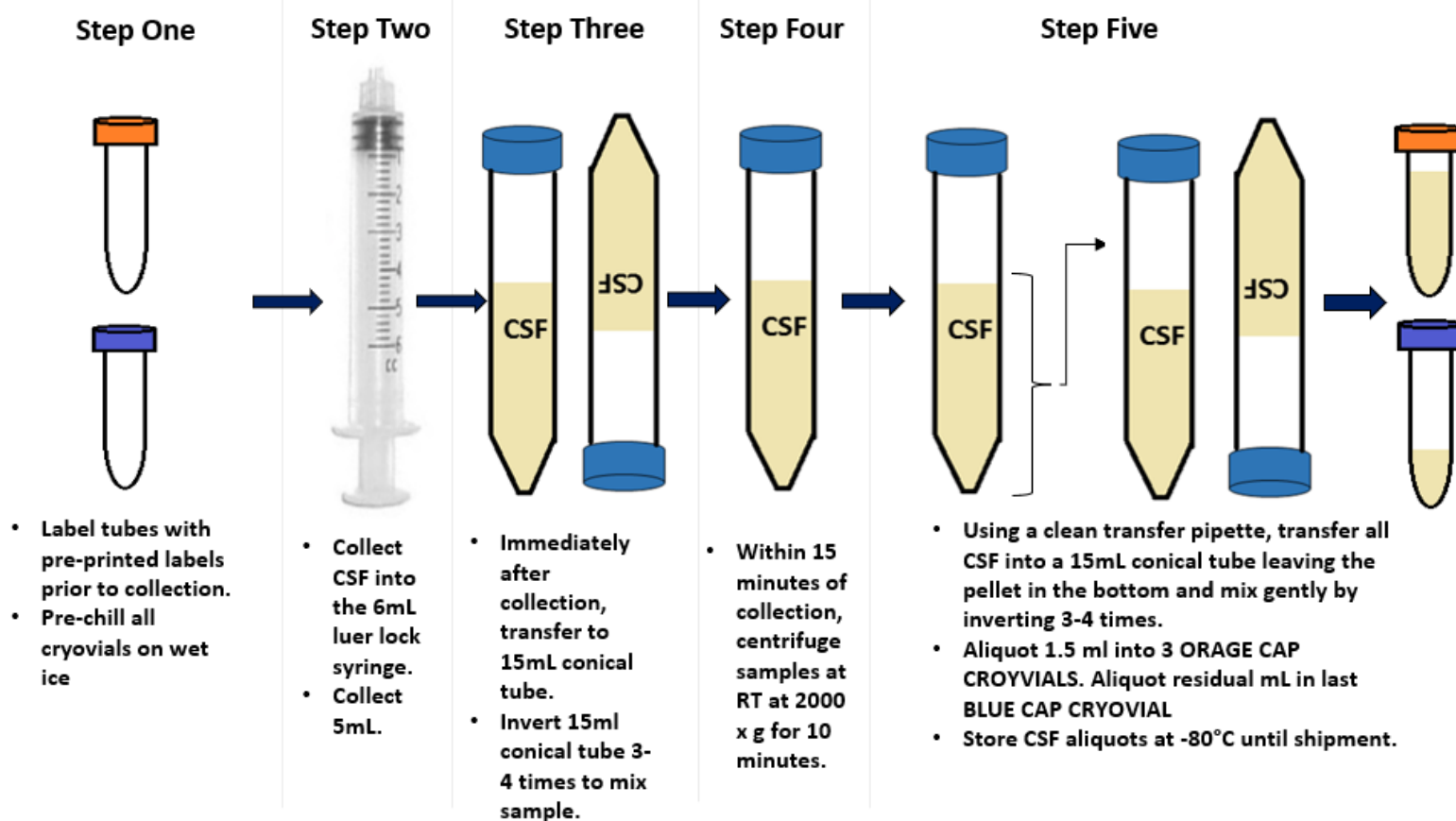


2. Collect CSF per study protocol, again this will vary by site.
3. Collect an additional 5 mls of CSF and transfer to 15 ml conical polypropylene tubes at room temperature. Mix gently by inverting 3-4 times. Record the time of draw (once collection is complete) on the CSF Sample and Shipment Notification Form.
4. Within 15 minutes of collection, spin the remaining CSF sample down at 2000 x g for 10 minutes at room temperature, 64°F – 77°F (18°C to 25°C). For assistance, see Appendix A.
 - Equivalent rpm for spin at 2000 x g
5. Pipette (micropipette preferred) 1.5 ml of supernatant directly into pre-cooled polypropylene CSF collection aliquot tubes. This will yield, on average, 3 aliquot tubes per participant and 1 residual aliquot. Seal each aliquot tube with correct cap color. If there is residual amount of CSF remaining (<1.5 ml), please utilize a BLUE cap cryovial to indicate that this aliquot has low volume.



6. Within 60 minutes of CSF collection, freeze aliquots immediately on pelleted dry ice and then store at **-80°C** or ship on pelleted dry ice in a shipping container. Complete the remainder of the Laboratory Procedures data form and ensure timely entry of data into the RAVE database.

CSF Preparation for NCRAD Samples (3-5 mL in Syringe)



8.0 Packaging & Shipping Instructions

ALL study personnel responsible for shipping should be certified in biospecimen shipping. If not available at your University, training and certification is available through the CITI training site (Course titled “Shipping and Transport of Regulated Biological Materials” at <https://www.citiprogram.org/>).

Sample Type	Study Visits Collecting Biospecimens	Number of Tubes Supplied in Kit	Processing/ Aliquoting	Tubes sent to NCRAD	Ship
Whole blood (Lavender-Top EDTA) for isolation of plasma & buffy coat (for DNA extraction)	All Cycles	3	3	N/A	N/A
	All Cycles	10 (9 Lavender Cap, 1 Blue Cap Cryovial)	1.5 ml plasma aliquots per 2.0 ml cryovial	8-10	Frozen
	All Cycles	3	1 ml buffy coat aliquot per 2.0 ml cryovial	3	Frozen
CSF	*Optional for all cycles	4 (3 Orange Cap, 1 Blue Cap Cryovial)	1.5 ml CSF aliquots per 2 ml cryovials	3-4	Frozen

8.1 Frozen Packaging Instructions

IMPORTANT!
FROZEN SAMPLES MUST BE SHIPPED
MONDAY-WEDNESDAY ONLY!

The most important issue for shipping is to maintain the temperature of the samples. The frozen samples must never thaw; not even the outside of the tubes should be allowed to defrost. This is best accomplished by making sure the Styrofoam container is filled completely with pelleted dry ice



Large Frozen Shipper:
 ** 45 lbs of dry ice pellets
AND
 • Fits up to 8 x 25-cell cryoboxes



Small Frozen Shipper:
 **10 lbs of dry ice pellets
AND
 • Fits up to 3 x 25-cell cryoboxes

Specimens being shipped to NCRAD should be considered as Category B UN3373 specimens and as such must be triple packaged and compliant with IATA Packing Instructions 650. *See the Latest Edition of the IATA Regulations for complete documentation.*

Triple packaging consists of a primary receptacle(s), a secondary packaging, and a rigid outer packaging. The primary receptacles must be packed in secondary packaging in such a way that, under normal conditions of transport, they cannot break, be punctured, or leak their contents into the secondary packaging. Secondary packaging must be secured in outer packaging with suitable cushioning material. Any leakage of the contents must not compromise the integrity of the cushioning material or of the outer packaging.

***** Packing and Labeling Guidelines *****

- The primary receptacle (frozen cryovials) must be leak-proof and must not contain more than 1L total.
- The secondary packaging (biohazard bag) must be leak-proof, and if multiple blood tubes are placed in a single secondary packaging, they must be either individually wrapped or separated to prevent direct contact with adjacent blood tubes.
- Absorbent material must be placed between the primary receptacle (cryovial box containing the frozen cryovials) and the secondary packaging (biohazard bag). The absorbent material should be of sufficient quantity in order to absorb the entire contents of the specimens being shipped. Examples of absorbent material are paper towels, absorbent pads, cotton balls, or cellulose wadding.
- A shipping manifest of specimens being shipped must be included between the secondary and outer packaging.
- The outer shipping container must display the following labels:
 - ✓ Sender's name and address
 - ✓ Recipient's name and address
 - ✓ Responsible Person
 - ✓ The words "Biological Substance, Category B"
 - ✓ UN3373
 - ✓ Class 9 label including UN 1845, and net weight of pelleted dry ice contained



1. If possible, hold packaged samples in -80°C freezer until time of UPS pick-up/drop-off. If storage in a -80°C freezer until UPS pick-up is not possible, package samples no more than 4 hours before the expected pick-up time.
2. Notify NCRAD of shipment by emailing NCRAD coordinators at: alzstudy@iu.edu. Attach the following to the email:
 - a. Completed Biological Sample and Shipment Notification Form to the email notification. (See [Appendix B](#) and/or [Appendix C](#) for the NCRAD sample forms)
 - b. If email is unavailable please call NCRAD and do not ship until you've contacted and notified NCRAD coordinators about the shipment in advance.
3. Place all frozen labeled 1.5 ml aliquots of plasma and buffy coat in the one 25-slot cryobox.

- a. Each cryobox holds up to 25 cryovials and there will be a maximum of 13 cryovials (10 plasma and 3 buffy coat) per blood draw (see next page).
4. If CSF is drawn at that time point, include the CSF aliquots in a separate 25-count cryobox in the same batch shipment (see next page).
5. A batch shipment should contain all of the specimens from the same patient, per time point. For example, if blood and CSF were collected at the same time point for a participant, two 25-count cryoboxes should be included in the same batch shipment. They will be placed in separate small biohazard bags.

➤ **Batch shipping should be performed quarterly or when 8 cryoboxes of samples have been obtained.**

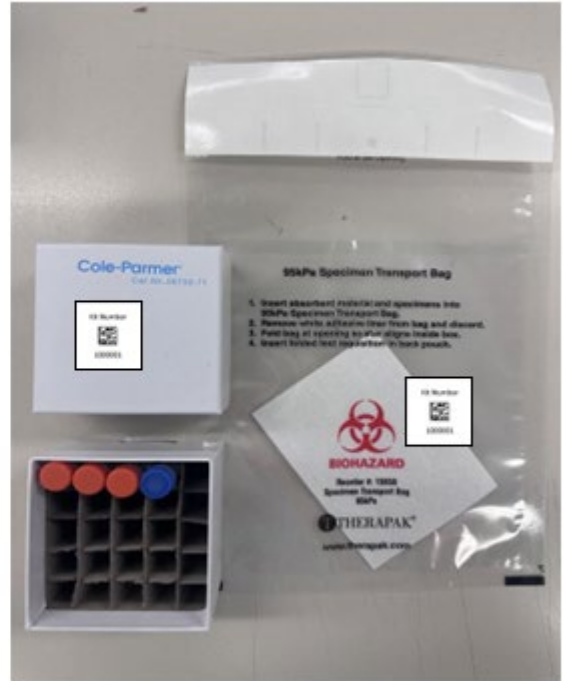
- Example #1: 4 participants with blood AND CSF collected (8 total cryoboxes for 4 participants)
- Example #2: 8 participants with ONLY blood collected (8 total cryoboxes for 8 participants)
- Example #3: 2 participants with blood AND CSF collected (4 total cryoboxes for 2 participants) and 4 participants with ONLY blood collected (4 total cryoboxes for 4 participants)

25-Slot Cryoboxes Containing Biospecimens from One Blood kit and One CSF kit



Blood kit (left) and CSF kit (right) Prepped for Batch Shipping

***Note: Blood and CSF kits will have different kit numbers, but the same RAVE IDs**



1. Label the outside of each cryobox with the kit number label (shown above) and the RAVE ID. Please place the cryoboxes containing blood derivatives in one small biohazard bag. Label the outside of the small biohazard bag with a kit number label as well (shown above).
2. **If collected, place the cryoboxes containing CSF derivatives for the patient in a separate small biohazard bag.** Label the outside of this second small biohazard bag with the CSF kit label.
3. As the cryobox are placed in the small clear plastic biohazard bag, do NOT remove the absorbent material found in the bag. Seal according to the instructions on the bag. The kit number label should have been placed on each cardboard cryobox prior to inserting into the biohazard bag. A kit number label should also have been placed on the outside of the biohazard bag. Please note that if you are shipping blood and CSF samples for 1 participant, the kit numbers will be different on each small biohazard bag.

Packaged Blood kit:
One 25-count cryobox with plasma, buffy coats, and residual aliquots



Packaged Blood kit:
One 25-count cryobox with CSF and residual aliquot

Cryobox placed in clear biohazard bags clearly labeled

4. Place approximately 2-3 inches of pelleted dry ice in the bottom of the Styrofoam shipping container.
5. Place the biohazard bags into the provided Styrofoam-lined shipping container on top of the pelleted dry ice. Please ensure that cryoboxes are placed so the cryovials are upright in the shipping container. **A maximum of 8 cryoboxes may be sent in each large shipper or a maximum of 3 cryoboxes in each small shipper.**
6. Fully cover the biohazard bags containing the cryoboxes with approximately 2 inches of pelleted dry ice.
7. The inner Styrofoam shipping container must contain approximately 45 lbs (or 20kg) of pelleted dry ice. The dry ice pellets should entirely fill the inner box and be placed on top of the biohazard bags to ensure the frozen state of the specimens.



8. Replace the lid on the Styrofoam carton. Place the completed Biological Sample and Shipment Notification Form in the package on top of the Styrofoam lid for each patient specimen, and close and seal the outer cardboard shipping carton with packing tape.
 - a. Attach provided UPS label for packages.
9. Complete the UPS Dry Ice Label
 - a. Net weight of dry ice in kg (must match amount on the airbill)
 - b. Do not cover any part of this label with other stickers, including pre-printed address labels.
10. Apply all provided warning labels and the pre-printed UPS return airbill to the outside of package, taking care not to overlap labels.

IMPORTANT!
 Ensure UPS address label is attached and UPS Dry Ice label is filled out,
 or UPS may reject or return your package.

11. Hold packaged samples in -80°C freezer until time of UPS pick-up/drop-off.
12. Specimens should be sent to the below address via **UPS Next Day Air**. Frozen shipments should be sent Monday through Wednesday to avoid shipping delays on Thursday or Friday. UPS does not replenish dry ice if shipments are delayed or held over during the weekend.

ALLFTD at NCRAD
 Indiana University School of Medicine
 351 W. 10th St TK-217
 Indianapolis, IN 46202
 Phone: 1-800-526-2839

13. Use UPS tracking to ensure the delivery occurs as scheduled and is received by NCRAD. Please notify NCRAD by email (alzstudy@iu.edu) that a shipment has been sent and include the UPS tracking number in your email.

*****Important Note*****

For frozen shipments, include no more than eight cryovial boxes (separated by patient within biohazard bags) per shipping container in order to have room for a sufficient amount of dry ice to keep samples frozen up to 24 hours.

The labeled, processed, aliquoted, and frozen cryovials of plasma, buffy coat, and CSF must be shipped to NCRAD as outlined above.

SHIP ALL FROZEN SAMPLES MONDAY - WEDNESDAY ONLY!

BE AWARE OF HOLIDAYS!!

BE AWARE OF RECIPIENT INCLEMENT WEATHER THAT MAY DELAY SHIPMENT/DELIVERY OF SAMPLES

Remember to complete the Biological Sample and Shipment Notification (Appendix B and C), include a copy in your shipment **AND** notify the NCRAD Study Coordinator by email at alzstudy@iu.edu (include UPS tracking number in email) **IN ADVANCE** to confirm the shipment.

In addition to tracking and reconciliation of samples, the condition and amount of samples received are tracked by NCRAD for each sample type. Investigators and clinical coordinators for each project are responsible to ensure the requested amounts of each fluid are collected to the best of their ability and that samples are packed with sufficient amounts of dry ice to avoid thawing in the shipment process.

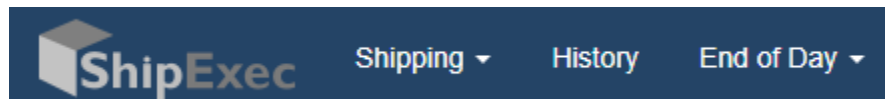
8.2 Ambient Shipping Instructions

Redraw Take Home Kits: Ambient

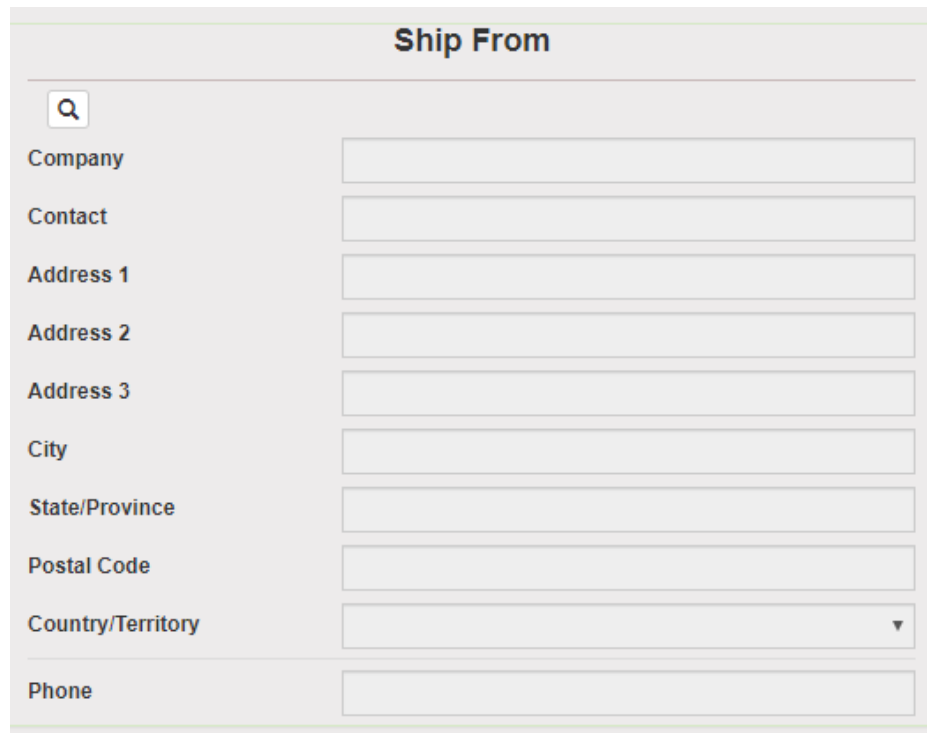
1. Place refrigerant pack in freezer 24 hours prior to shipment.
2. Notify NCRAD of shipment by emailing NCRAD coordinators at: alzstudy@iu.edu
 - a. Complete and attach the Biological Sample and Shipment Notification Form to the email. (See Appendix D for an example of the form)
3. Place Kit Number Label on outside of the biohazard bag.
4. Place the refrigerant pack into the cooler on top of the filled biohazard bag.
5. Place the lid onto the cooler.

8.3 Frozen Shipping Instructions

1. Log into the ShipExec Thin Client at kits.iu.edu/UPS.
 - a. If a new user or contact needs access, please reach out to your study contact for access.
2. Click "Shipping" at the top of the page



3. Click on the magnifying glass icon in the “Ship From” section to search for your shipping address.



- a. Search by Company (site), Contact (name), or Address 1 (first line of your site’s street address). Click Search.
 - b. Click Select to the left of the correct contact information.
4. Verify that both the shipping information AND study reference are correct for this shipment.
 - a. If wrong study contact or study reference, click Reset in the bottom right of the screen to research for the correct information.
5. Enter Package Information for Frozen shipments
 - a. Enter the total weight of your package in the “Weight” field.
 - b. Enter the dry ice weight in the “Dry Ice Weight” field.
 - c. If the “Dry Ice Weight” field is higher than the “Weight” field, you will receive an error message and need to reenter these values.
 - d. Click Ship in the bottom right of the page when complete.
6. Print the airbill that is automatically downloaded.
 - a. To reprint airbill, click History at the top left of the page.
 - b. Click Detailed Report from the dropdown menu on the right side of the page.
 - c. Enter tracking number if known. Otherwise, search by ship date. Click Search.
 - d. Click print icon on right side of the tracking number line.
7. Fold airbill, and place inside plastic UPS sleeve.

8. Peel the back off of the UPS sleeve and stick the sleeve to the package.

9. A UPS Pickup is automatically scheduled at the address you are shipping from, and the pickup is charged to NCRAD.
 - a. If shipment occurs too late in the day for an automatic UPS pickup, you will receive an email stating that the pickup could not be scheduled, and you will need to make other arrangements.

8.4 International Shipments: Canada to U.S.A

1. All international shipments to be made between Canada and the USA will utilize the same packing requirements as specified in [Section 8.1](#) (Frozen Packaging Instructions), [Section 8.2](#) (Ambient Packaging Instructions), and [Section 8.3](#) (Ambient and Frozen Shipping Instructions).

9.0 Data Queries and Reconciliation

The laboratory worksheets must be completed on the day that samples are collected, since they capture information related to the details of the sample collection and processing. These forms include information that will be used to reconcile sample collection and receipt, as well as information essential to future analyses.

The ALLFTD iMedidata RAVE data collection team will be collaborating with NCRAD to reconcile information captured in the database with information from the samples received and logged at NCRAD. Information that appears incorrect in the iMedidata RAVE database will be queried through the standard system. Additional discrepancies that may be unrelated to data entry will be resolved with the Principal Investigator in a separate follow up communication. If applicable, a non-conformance report will be provided to sites on a monthly basis.

Data queries or discrepancies with samples shipped and received at NCRAD may result from:

- Missing samples
- Incorrect samples collected and shipped
- Damaged or incorrectly prepared samples
- Unlabeled samples, samples labeled with incomplete information, or mislabeled samples
- Discrepant information documented on the Biological Sample and Shipment Notification Form and logged at NCRAD compared to information entered into the iMedidata RAVE database.
- Samples that are frozen and stored longer than one quarter at the site
- Use of an incorrect Biological or CSF Sample and Shipment Notification Form

10.0 Appendices

[Appendix A: Rate of Centrifugation Worksheet](#)

[Appendix B: Biological Sample and Shipment Notification Form](#)

[Appendix C: CSF Sample and Shipment Notification Form](#)

[Appendix D: Lavender Top/EDTA Redraw/Take Home Sample Form](#)

[Appendix E: Low-Fat Diet Menu Suggestions](#)

Appendix A: Rate of Centrifuge Worksheet

Please complete and return this form by fax or email to the NCRAD Project Manager if you have any questions regarding sample processing. The correct RPM will be sent back to you. Make note of this in your ALLFTD Biologics Manual.

Submitter Information

Name:

Site:

Submitter e-mail:

Centrifuge Information

Please answer the following questions about your centrifuge.

Centrifuge Type

Fixed Angle Rotor:

Swing Bucket Rotor:

Radius of Rotation (mm):

Determine the centrifuge's radius of rotation (in mm) by measuring distance from the center of the centrifuge spindle to the bottom of the device when inserted into the rotor (if measuring a swing bucket rotor, measure to the middle of the bucket).

Calculating RPM from G-Force:

$$RCF = \left(\frac{RPM}{1,000} \right)^2 \times r \times 1.118 \quad \Rightarrow \quad RPM = \sqrt{\frac{RCF}{r \times 1.118}} \times 1,000$$

RCF = Relative Centrifugal Force (G-Force)

RPM = Rotational Speed (revolutions per minute)

R= Centrifugal radius in mm = distance from the center of the turning axis to the bottom of centrifuge

Comments:

Please send this form to NCRAD Study Coordinator

317-321-2003 (Fax)

alzstudy@iu.edu



Appendix B: Blood Sample and Shipment Notification Form

Please email or fax the form on or prior to the date of shipment.

To: Kelley Faber Email: alzstudy@iu.edu FAX: 317-278-1100 Phone: 1-800-526-2839

From: _____ UPS tracking #: _____
 Phone: _____ Email: _____
 Site #: _____

Study: ALLFTD Longitudinal ALLFTD Biofluid

RAVE ID: _____ RAVE Cycle: _____

Kit #:

KIT BARCODE

Sex: M F Year of Birth: _____

Blood Collection:

Date of Draw: _____ [MMDDYY]	Time of Draw: _____ [HHMM]
Date participant last ate: _____ [MMDDYY]	Time participant last ate: _____ [HHMM]

Storage temperature of freezer: _____ °C

Blood Processing:

Plasma & Buffy Coat (Lavender-Top) Tubes (3 x 10 mL)

Time spin started:	_____ [HHMM]
Duration of centrifugation:	_____ Minutes
Temp of centrifuge: _____ °C Rate of centrifuge: _____ x g	
Time aliquoted:	_____ [HHMM]
Number of 1.5 mL plasma aliquots created (lavender cap, up to 9):	_____
If applicable, volume of residual plasma aliquot (less than 1.5 mL in blue cap):	_____ mL
If applicable, specimen number of residual plasma aliquot (last four digits):	_____
Buffy coat #1 last four digits of specimen number: _____	
Buffy coat #1 volume: _____ mL Original blood volume drawn: _____ mL	
Buffy coat #2 last four digits of specimen number: _____	
Buffy coat #2 volume: _____ mL Original blood volume drawn: _____ mL	
Buffy coat #3 last four digits of specimen number: _____	
Buffy coat #3 volume: _____ mL Original blood volume drawn: _____ mL	
Time plasma and buffy coat aliquots frozen:	_____ [HHMM]

Notes:



Appendix C: CSF Sample and Shipment Notification Form

Please email or fax the form on or prior to the date of shipment.

To: Kelley Faber	Email: alzstudy@iu.edu	FAX: 317-278-1100	Phone: 1-800-526-2839
From: _____	UPS tracking #: _____		
Phone: _____	Email: _____		
Site #: _____			
Study: ALLFTD Longitudinal <input type="checkbox"/>	ALLFTD Biofluid <input type="checkbox"/>	KIT BARCODE	
RAVE ID: _____	RAVE Cycle: _____		
Sex: <input type="checkbox"/> M <input type="checkbox"/> F	Year of Birth: _____		
Kit #: _____			
<i>CSF Collection:</i>			
1. Date of Draw: _____ [MMDDYY]		2. Time of Draw: _____ [HHMM]	
3. Date participant last ate: _____ [MMDDYY]		4. Time participant last ate: _____ [HHMM]	
Collection Process: <input type="checkbox"/> Gravitational OR <input type="checkbox"/> Pull			
<i>CSF Processing:</i>			
Time spin started: _____		_____ [HHMM]	
Duration of centrifuge: _____		_____ minutes	
Temp of centrifuge: _____ °C		Rate of centrifuge: _____ x g	
Total amount of CSF collected (mL): _____		_____ mL	
Time aliquoted: _____		_____ [HHMM]	
Number of 1.5 mL CSF aliquots created (up to 3 total) (Orange cap cryovials): _____		_____	
<i>If applicable</i> , volume of residual CSF aliquot (less than 1.5 mL) (Blue cap cryovial): _____		_____ mL	
<i>If applicable</i> , specimen number of residual aliquot tube (Last four digits): _____		_____	
Time frozen: _____		_____ [HHMM]	
Storage temperature of freezer: _____		_____ °C	
Name of the Primary Research Study supporting the LP: _____		_____	
PI of the Primary Research Study supporting the LP: _____		_____	
Is the Collection and Processing Protocol of the Research Study attached to the advanced notification email to alzstudy@iu.edu ?		<input type="checkbox"/> Y <input type="checkbox"/> N	
NOTES: _____ _____			

Appendix D: Lavender Top-EDTA Redraw/Take Home Sample Form**TO BLOOD DRAWING PERSONNEL**

This blood sample is for a study sponsored by the National Institute of Health (NIH). Samples are housed at Indiana University School of Medicine. It will need to be shipped to the address below. Please use the enclosed pre-addressed UPS Clinical Pak.

**ALLFTD at NCRAD
Indiana University School of Medicine
351 W. 10th St. TK-217
Indianapolis, IN 46202
Phone: 1-800-526-2839**

The kit provided contains a collection tube with which to obtain blood from the individual for research purposes. Each kit contains 1 lavender-tube and all necessary shipping supplies.

**DO NOT REFRIGERATE; STORE AT ROOM TEMPERATURE.
DO NOT DRAW OR SHIP ON FRIDAY OR SATURDAY.
PLEASE SHIP SAME DAY AS BLOOD IS DRAWN.**

Instructions for drawing and shipping blood samples:

1. Place refrigerant pack in freezer 24 hours prior to shipment.
2. Fill **LAVENDER TUBES** completely, if possible.
3. Invert (do not shake) tube eight to ten times after drawing blood to thoroughly mix additive with sample.
4. **Enclose this form in shipment with samples.** Place lavender tubes in biohazard bag and seal, then place bag and gel pack in the Styrofoam container and close.
5. Ship samples by **UPS** immediately after drawing. Use the enclosed, pre-paid UPS mailer. There will be no cost to you or the patient for the shipping.

KIT NUMBER (RECORDED ON LABEL): _____

RAVE IDENTIFICATION NUMBER (RECORDED ON LABEL): _____

RAVE CYCLE NUMBER: _____

STUDY SITE ID (RECORDED ON LABEL): _____

DATE BLOOD WAS DRAWN: _____

DONOR YEAR OF BIRTH: _____

DONOR SEX: _____

Appendix E: Low Fat Diet Menu Suggestions

Foods to avoid prior to Lumbar Puncture and/or blood collection:

Avoid: *All fats and nuts such as:*

- Butter
- Cream
- Bacon fat
- Lard
- All oils
- All margarine
- All nuts
- Peanut butter
- Coconut
- Whole seeds such as pumpkin and sunflower

Avoid: *All milk and dairy products such as:*

- All whole milk products
- All cheese
- All products containing cheese
- Sour cream
- All ice cream
- Milk chocolate

Avoid: *High fat prepared foods and foods naturally high in fat:*

- All red meats, or meats containing fat, such as pork
- Fatty meats such as:
 - Luncheon meats
 - Organ meats
 - Bacon
- Fatty fish
 - Salmon
 - Mackerel
- Salad dressing and mayonnaise
- Fried foods
- Fried snacks such as:
 - Chips
 - Crackers
 - French Fries
- Buttered, au gratin, creamed, or fried vegetables
- Gravies and sauces
- Baked goods and frosting