Hair Collection
Prenatal, Perinatal, Infancy, Early Childhood, Middle Childhood & Adolescence

Collection, Processing and Storage Protocol
Site or Home Collection

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A. Overview

- The Hair collection procedures apply to mothers in prenatal and perinatal lifestage, and children in perinatal, infancy, early childhood, middle childhood, and adolescence.
- You may collect hair specimen from mothers in prenatal OR perinatal life stage but collection in perinatal is preferred. If collection occurs in prenatal life stage, collect the specimen late in pregnancy i.e. as close to delivery as possible. In perinatal life stage, collect the specimen as close to post-delivery as possible i.e. prior to hospital discharge.
- Hair collection can occur at home or at the site during the participant’s visit.
- If a participant/caregiver chooses to collect the specimen at home, study stuff can mail the hair collection kit, provide it during a site visit, or take it to the participant’s home.
- Once collected, the participant/caregiver can mail the hair and completed Specimen Information Form (SIF) to the site, bring it to the next site visit, or study staff can pick it up from their home.

B. Guidelines

- Hair should be at least 1 centimeter (0.4 inch) in length. If hair is less than 1 centimeter, participant is not eligible for specimen collection.
- Collect a minimum of 100 strands. This is about half as wide as a standard pencil eraser.
- Hair should be cut from the back of the head and as close to the scalp as possible. Do not collect hair from face or other parts of the body.
- Do not pull hair out.
- Do not provide hair that fell out naturally.
- For participants with hair that is braided or styled such that no loose strands are available, instruct participants/caregiver to self-collect at home the next time the hair is re-styled. Site staff should coordinate the collection timeframe with the participant/caregiver.
- Do not collect hair if the participant has active lice. If the participant confirms he/she has active lice, provide collection kit only after treatment is complete.
- It is easier to collect a hair specimen with 2 people if the hair is short. One can cut the hair and the other can gather the hair in the foil.

C. Collection Kit, Supplies and Kit Assembly

1. Hair Kit (Fisher BioServices)
   - One (1) collection envelope
2. Supplies (Site)

- Two (2) alcohol wipes
- One (1) pair of scissors (reusable)
- One (1) comb (reusable)
- Four (4) hair clips (reusable)
- One (1) hair band (reusable)
- One (1) ruler (reusable)
- One (1) storage container/large envelope (able to fit 4 x 6 in biohazard bag)
  
  a. Recommendation: 5.71 x 5.71 x 4.80 in. box (30 biohazard bags per box)

- Hair – Collection Instruction Sheet (CIS)
- Hair – Specimen Information Form (SIF)
- Hair – Specimen Tracking Form (STF)
- Transport materials for home collections:
  
  a. Collection kit distribution by mail:
     
     i. Padded envelope
ii. Appropriate postage

b. Specimen receipt at the site by mail:
   i. Padded envelope
   ii. Appropriate postage

3. Kit Assembly

Follow the below steps to assemble the collection kit and prepare for the collection prior to meeting with the participant/caregiver.

- Confirm that the collection kit includes a collection envelope, biohazard bag, two aluminum foil pieces, five twist ties, and triplet specimen ID labels.
- Print SIF and STF and fill out the headers.
- There will be three identical labels for each specimen ID. Affix the first label to the collection envelope, the second matching label to the SPECIMEN LABEL field on the STF and the third matching label to the SPECIMEN LABEL field on the SIF.
  Note: Study staff must complete the above steps before providing the materials to the participant/caregiver, in order to prevent misplacement or confusion about the forms/collection materials.
- Place the labeled collection envelope, aluminum foil, ties, and labeled SIF in the biohazard bag.
- Gather scissors, hair clips, hair band, ruler and two alcohol wipes.
- Retain the STF at the site.
- Mark Kit Distribution section of the STF as not applicable if collection is done on site.

4. Home Collection: Kit Distribution and Specimen Receipt

Use the following steps to prepare for distribution of the collection kit and receipt of specimen by mail:

- Add the following items on the front of the padded envelope:
  a. Appropriate postage
  b. Place a site address label in the upper left corner
  c. Place a caregiver address label in the center
- Place the biohazard bag prepared in the previous step as well as other supplies in a padded envelope.
  NOTE: If you do not choose to provide hair clips, band, comb, ruler and scissors to the participant, make sure they have these supplies. Alcohol wipes must be included in the kit.
- Include the CIS.
• Prepare another prepaid return mailer (padded envelope) for the participant/caregiver to send the specimen to the site.
  a. Add appropriate postage
  b. Place a caregiver address label in the upper left corner
  c. Place a site address label in the center
  d. Fold the return mailer and place it in the padded envelope
• Mail the padded envelope to the participant/caregiver.
• Complete the KIT DISTRIBUTION section of the STF.

D. Site Collection

1. Site Pre-Collection Instructions for the Study Staff
• Have the supplies and prepared bag available.
• Review the kit materials and collection instructions with the participant/caregiver to ensure that he/she understands the procedure.
• Ask the participant to sit in a place that allows for easy access to the back of the head for cutting the hair.
  Note: For collection in children, the caregiver might need to put the child in his/her lap.
• Explain to the participant/caregiver that you will cut a small amount of hair from the back of the head, emphasizing that it will not hurt and will not leave a visible bald spot.
  Note: Many hair styles are short on the sides and back, but are longer than 1 centimeter (0.4 inch) on top. It is okay to get the hair specimen from the top of the head in those cases.

2. Collection Instructions for the Study Staff
• Clean your hands using hand sanitizer, or soap and water.
• Wipe scissors, comb, hair clip, and ruler if reusing with an alcohol wipe and allow them to air dry.
• If hair is long, use the comb to part the hair in the back of the head horizontally so that the part falls in line with the middle of the ears. If necessary, tie or clip the hair away from the part so that you can work with the bottom or top section of the parted hair.
  Note: Clips work a bit easier with shorter hair and hair bands are better at holding back longer hair.
• Use the ruler to measure the length of the hair. If the hair is less than 1 centimeter (0.4 inch) in length, do not collect a hair specimen.
• Use the tips of the scissors to weave apart sections of hair along the part line (about 20 hair strands) and cut hair as follows:
  a. If the hair is less than 3 centimeters (1.2 inches) in length, slowly cut the hair as close to the scalp as possible while taking care to not nick the skin, and drop it in the aluminum foil.
  b. If the hair is greater than 3 centimeters (1.2 inches) in length, twist the twist tie around the hair close to the scalp so that all the hairs are tied together. Slowly cut the hair that has been tied off, as close to the scalp as possible, and drop it in the aluminum foil.
  Note: The twist tie tells us which end of the hair was closest to the scalp so do not move or remove it.
• Cut from an additional location in the back of the head if necessary to collect a sufficient specimen (if collecting sections of 20 strands, 5 sections will be needed to obtain a total of 100 strands).
• Once the hair specimen(s) are in the aluminum foil, fold it without bending the first 10 centimeters (4 inches) of hair.
  Note: It is easiest to place the hair in the middle of the aluminum foil and fold over all four ends. An extra foil piece is provided to ensure the specimen is fully wrapped.
• Place the aluminum foil in the collection envelope.
• Provide the SIF to the participant/caregiver to complete.

3. Site Post-Collection Instructions for the Study Staff
• Seal the collection envelope and put it in the biohazard bag.
• Wipe the scissors, comb, and hair clip with an alcohol wipe if reusing, otherwise discard the used supplies.
• Collect SIF from the caregiver and retain it at the site.

E. Home Collection
1. Home Collection Instructions for the Participant/Caregiver
   • Refer to the Hair Collection Instruction Sheet (CIS).

F. Processing
1. Site Collection
• Complete **STEP 1: COLLECTION** section of the STF and mark **STEP 2: RECEIPT** as not applicable.

2. Home Collection
   • Upon receipt of the collection at the site, check the collection envelope against the SIF to ensure that the specimen ID labels match.
   • Complete **STEP 1: COLLECTION** and **STEP 2: RECEIPT** sections of the STF.

G. Storage
   • Store hair collection envelope placed in a biohazard bag in a labeled storage container.
   • Store in a dry place away from direct sunlight. Temperature should be ambient.
   • Place storage container on a shelf, such as a filing cabinet, until shipped to the Biorepository.
   • Complete **STEP 3: STORAGE** section of the STF.
   • Data from the SIF and STF should be entered into Bio-Track immediately, or within 48 hours of storing the specimen.
   • Retain the SIF and STF at the site.

H. Shipping to the Biorepository
   This information is available in the Laboratory Manual of the ECHO-wide Cohort Data Collection Protocol.

I. Supporting Documents
   1. Hair – Collection Instruction Sheet (CIS)
   2. Hair – Specimen Information Form (SIF)
   3. Hair – Specimen Tracking Form (STF)
   4. Hair – Specimen Tracking Form (STF) Completion Instructions