

SPECIMEN COLLECTION FORM for Visits 4, 6 and 8 (L41)

CKiD Chronic Kidney Disease in Children Cohort Study

SECTION A: GENERAL INFORMATION

A1. PARTICIPANT ID: AFFIX ID LABEL OR ENTER NUMBER IF ID LABEL IS NOT AVAILABLE

|_| - |_|_| - |_|_|_|

A2. CKiD VISIT #: _____

A3. FORM VERSION: 1 1 / 0 1 / 1 0

A4. SPECIMEN COLLECTION DATE: _____ / _____ / _____
M M D D Y Y Y Y

A5. FORM COMPLETED BY (INITIALS): _____

A6. Is this study visit an irregular (accelerated) visit? Yes..... 1
No..... 2

The following samples should be collected.

<u>Samples:</u>	<u>Shipped to</u>	<u>Shipped:</u>
Serum	CBL	IMMEDIATELY
Serum	CBL	Batched (Ship in Jan, Apr, Jul or Oct)
Whole Blood	CBL	IMMEDIATELY
Iohexol Blood	CBL	IMMEDIATELY
Urine	CBL	IMMEDIATELY

If consent is obtained for biological sample, collect the following:

<u>Samples:</u>	<u>Shipped to:</u>	<u>Shipped:</u>
Serum (Biological)	NIDDK Biosample Repository	Batched (Ship in Jan, Apr, Jul or Oct)
Plasma (Biological)	NIDDK Biosample Repository	Batched (Ship in Jul, Apr, Jul or Nov)
Urine (Biological)	NIDDK Biosample Repository	Batched (Ship in Jul, Apr, Jul or Nov)
Toenail Clippings (Biological)	NIDDK Biosample Repository	IMMEDIATELY

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SECTION C: PRE-IOHEXOL INFUSION BLOOD DRAW

Encourage fluids throughout the visit.

Place two IV lines (18-22 gauge polyethylene catheters); using two separate vascular access sites
--OR--
Place one butterfly and one IV line (18-22 gauge polyethylene catheter); using two separate vascular access sites;
use tape to stabilize butterfly for Iohexol infusion

Complete Pre-Iohexol Infusion blood draw according to MOP instructions/flowchart below.
NOTE: If patient has had a local CBC drawn within the past 30 days, those CBC results may be used instead of drawing another CBC and blood draw amounts on pre-iohexol infusion blood draw can be decreased by 1 ml.

**For Initial Blood Draw with Syringe, Vacutainer OR Butterfly Method:
Select the Type of Consent Obtained (options 1 through 2) That Pertains to the CKiD Participant:**

1 If participant consented to BIOLOGICAL samples:

Collect **20.5-23.0 mL** if participant is **< 30 kg** OR **24.5-27.0 mL** if participant is **≥ 30 kg**.

If **< 30 kg**, immediately transfer (using **18 gauge needle**) or draw:

- 12.5 mL into (2) Tiger-Top SSTs for CBL & NIDDK BR
- 3 mL into (1) PST for NIDDK Biosample Repository
- 1 mL into Tan-Top tube for heavy metals
- 1 mL in lavender-top tube for local CBC
(*tube not provided in CBL kit*)
- 3 mL in appropriate tube (*not provided*) for local Renal Panel
- **2.5 mL of additional blood in SST for CBL (if initial sample is GROSSLY HEMOLYZED)**

If **≥ 30 kg**, immediately transfer (using **18 gauge needle**) or draw:

- 14.5 mL into (2) Tiger-Top SSTs for CBL & NIDDK BR
- 5 mL into (2) PST for NIDDK Biosample Repository
- 1 mL into Tan-Top tube for heavy metals
- 1 mL in lavender-top tube for local CBC
(*tube not provided in CBL kit*)
- 3 mL in appropriate tube (*not provided*) for local Renal Panel
- **2.5 mL of additional blood in SST for CBL (if initial sample is GROSSLY HEMOLYZED)**

2 If participant did NOT consent to BIOLOGICAL samples:

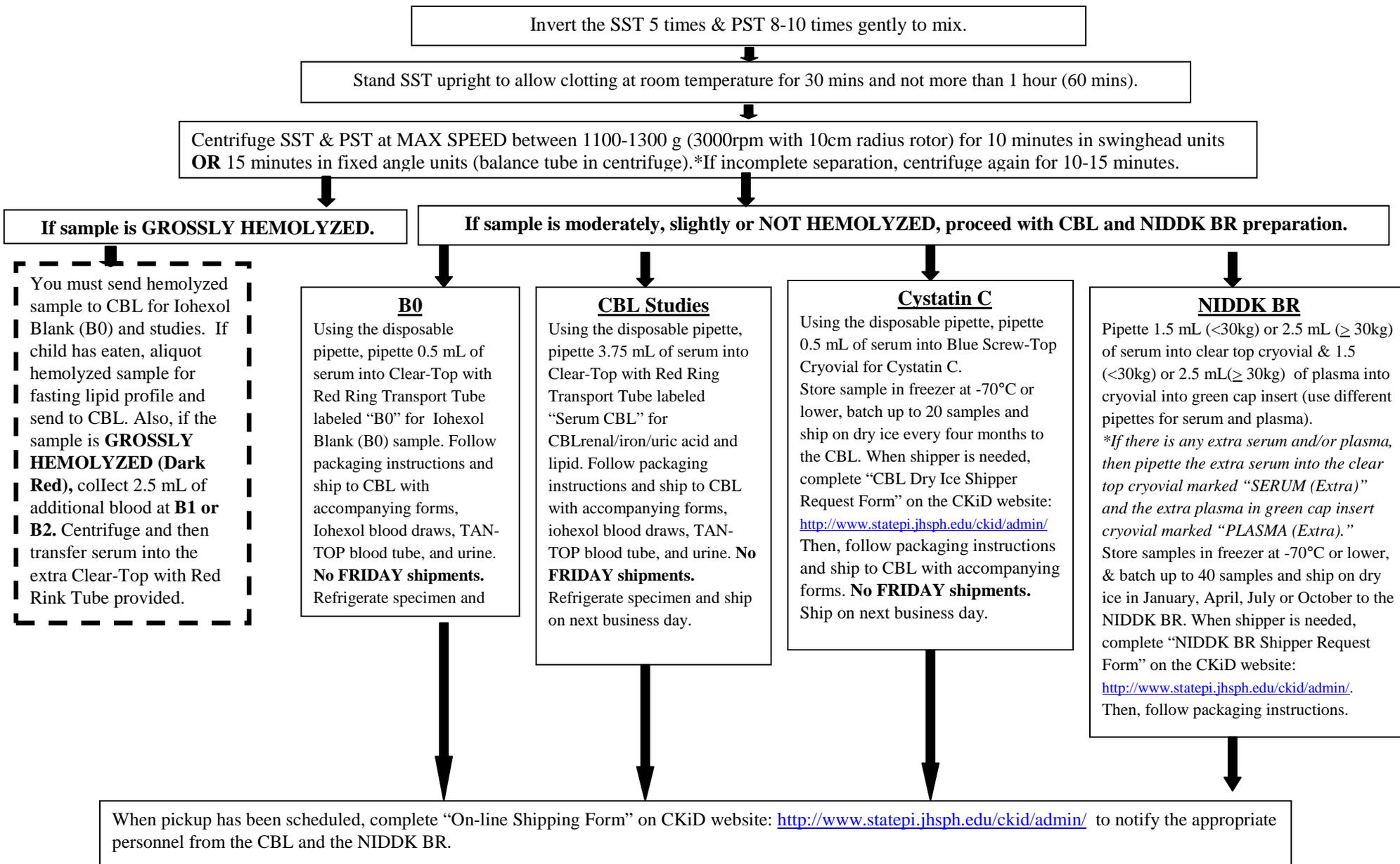
Collect **14.5-17.0 mL** from all participants (regardless of weight) as specified below.

Immediately transfer (using 18 gauge needle) or draw:

- 9.5 mL into (2) Tiger-Top SSTs for CBL
- 1 mL into Tan-Top tube for heavy metals
- 1 mL in lavender-top tube for local CBC (*tube not provided in CBL kit*)
- 3 mL in another tube (*not provided*) for local Renal Panel
- **2.5 mL of additional blood in SST for CBL (if initial sample is GROSSLY HEMOLYZED)**

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PROCESSING OF PRE-IOHEXOL INFUSION BLOOD FOR CBL & NIDDK BR



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C7. Did the participant consent to have biological samples (i.e., serum, plasma and urine samples) stored at the NIDDK Biosample Repository?

Yes..... 1

No..... 2 (**Skip to E2**)

Reasons Code List*	1= Not required	3 = Participant Refused	5 = Inadvertently Destroyed
	2 = Difficult Blood Draw	4 = Red Blood Cell Contamination	6 = Oversight

Sample Type (Required Volume in Top Color Tube Type):	(a) Sample Obtained:	(b) If No, specify reason *SEE CODE LIST ABOVE	(c) Additional Requirements:
	<u>Yes</u> <u>No</u>		
C8. Serum for NIDDK Biosample Repository (**3.0 mL or **5.0 mL of blood in Tiger Top SST)	1 (skip to c→)	2 (skip to C9)	Date Frozen: ____ ____ / ____ ____ / ____ ____ M M D D Y Y Y Y
C9. Plasma for NIDDK Biosample Repository (**3.0 mL of blood in one Green Top or **5.0 mL in two Green Top PSTs)	1 (skip to c→)	2 (skip to D1)	Date Frozen: ____ ____ / ____ ____ / ____ ____ M M D D Y Y Y Y

** Collect 3.0 mL of whole blood for children < 30 kg and 5.0 mL for children ≥ 30 kg

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SECTION D: URINE COLLECTION AND PROCESSING FOR REPOSITORY

Collect FRESH urine into an initial urine collection cup or hat (provided by the site).

Pour 60 mL of FRESH urine into blue top urine collection cup with 4 protease inhibitor (PI) tablets. Do not fill the urine past the 60 mL mark on the collection cup. One protease inhibitor tablet should be used for 10-15 mL of urine (see **Table A**). For example if 30 mL of urine is collected, **ONLY 2 PI tablets** are needed. (Like all unused supplies, **unused PI tablets should be returned to the CBL.**)

Invert the urine cup gently 5 – 10 times.

The PI TABLET(s) MUST BE **COMPLETELY DISSOLVED** in the urine.

Once the PI tablets are completely dissolved, pour urine into up to six (6) 10 mL urine centrifuge tubes. (**For each tube:** remove yellow top cap, pour urine into tube and **SCREW** cap back onto tube.) Place no more than 10 mL in each tube.
– OR – Sites may also substitute with tubes normally used to centrifuge urine at site.

Urine Volume	# of PI Tablets
10 – 15 mL	1
16 – 30 mL	2
31 – 45 mL	3
46 – 60 mL	4

Centrifuge urine tube(s) at **MAX SPEED** between 1100-1300g (3000rpm with 10cm radius rotor) for 10 mins (swinghead units) **OR** 15 mins (fixed angle units).

Decant (pour off) the supernates (liquid reaction) into up to seven (7) 10 mL urine cryovials. Pour no more than 9 mL of urine into each 10 mL cryovial to allow for expansion.

Check that all information is correct on the urine cryovial, promptly freeze and store sample(s) at -70°C or lower. Batch samples and ship at least quarterly (include maximum of 36 cryovials per shipper). When shipper(s) is needed, complete “NIDDK Shipper Request Form” on CKiD website: <http://www.statepi.ihsph.edu/ckid/admin/>.

When pickup has been scheduled, complete “On-line Shipping Form” on CKiD website to notify Heather Higgins, Sandra Ke and KIDMAC that sample(s) have been shipped to NIDDK BR.

Reasons Code List *	1 = Not required	3 = Participant Refused	5 = Inadvertently Destroyed
	2 = Difficult Urine Collection	4 = Collection Contamination	6 = Oversight

Sample Type (Required Volume in Top Color Tube Type):	(a) Sample Obtained:	(b) If No, specify reason *SEE CODE LIST ABOVE	(c) Additional Requirements:				
	<table style="width: 100%; border: none;"> <tr> <td style="text-align: center; width: 50%;"><u>Yes</u></td> <td style="text-align: center; width: 50%;"><u>No</u></td> </tr> </table>	<u>Yes</u>	<u>No</u>				
<u>Yes</u>	<u>No</u>						
D1. Urine for NIDDK Biosample Repository (15.0 - 60.0 mL of urine in specimen container and transferred into collection cup with protease inhibitors)	<table style="width: 100%; border: none;"> <tr> <td style="text-align: center; width: 50%;">1</td> <td style="text-align: center; width: 50%;">2</td> </tr> <tr> <td colspan="2" style="text-align: center;">(skip to c→)</td> </tr> </table>	1	2	(skip to c→)		<p>_____ (skip to E2)</p>	<p>i. Was supernate decanted into urine transport cryovials? Yes.....1 No.....2</p> <p>ii. Date Frozen: ____ / ____ / ____ M M D D Y Y Y Y</p>
1	2						
(skip to c→)							

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SECTION E: OPTIONAL LOCAL LAB TEST (IF CLINICALLY INDICATED)

Check with the PI at your clinical site to determine whether or not it is **CLINICALLY INDICATED** to obtain urine for local lab. These are instances when the PI needs results immediately and/or the participant needs additional local labs performed (i.e., local Urine Creatinine and Urine Protein).

E2. Was a 1st morning urine protein to creatinine ratio assay performed at the clinical site's local laboratory?

Yes..... 1 → **Complete Local Urine Assay Results Form L06, ONLY if local labs are CLINICALLY INDICATED**
No..... 2

SECTION F: INFUSION SYRINGE WEIGHT

F1. **SCALE MUST FIRST BE ZEROED BEFORE WEIGHING. REMOVE ALUMINUM FOIL PRIOR TO WEIGHING THE SYRINGE. THE SAME SCALE MUST BE USED TO WEIGH THE SYRINGE PRE AND POST IOHEXOL INFUSION.**

- a. Syringe Weight **Pre-iohexol Infusion**: ____ . ____ (g)
- b. Syringe Weight **Post-iohexol Infusion**: ____ . ____ (g) (Post-Infusion Weight should be **at least 6.0g** less than Pre-Infusion Weight. If Post-Infusion Weight is not at least 6g less, please confirm.)

PRE AND POST SYRINGE WEIGHT MUST BE OBTAINED IN ORDER TO CALCULATE CHILD'S GFR.

SECTION G: IOHEXOL – Refer to Instructions for Iohexol Infusion and GFR Blood Draws Flow Chart on Page 12

- **BEFORE INFUSING 5 mL OF IOHEXOL, SET TIMER = 0. SIMULTANEOUSLY START TIMER AND BEGIN IOHEXOL INFUSION**
- **COMPLETE INFUSION BETWEEN 1 TO 2 MINS**
- **LEAVE TIMER RUNNING THROUGHOUT IOHEXOL INFUSION AND SUBSEQUENT BLOOD DRAWS**

G1. IOHEXOL INFUSION

a. INFUSION START TIME: ____ : ____ 1 = AM 2 = PM

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- DO NOT DRAW BLOOD FROM THE IV SITE WHERE IOHEXOL WAS INFUSED. ANOTHER IV SITE MUST BE USED.
- WASTE 1 mL OF BLOOD IF DRAWING FROM A SALINE/HEPARIN LOCK.
- COLLECT 1 mL OF BLOOD FOR EACH IOHEXOL BLOOD DRAW IN THE PROVIDED SST.
- RECORDING THE EXACT NUMBER OF MINUTES ON THE TIMER IS MORE IMPORTANT THAN DRAWING THE BLOOD EXACTLY AT 120 & 300 MINUTES AFTER IOHEXOL INFUSION. FOR EXAMPLE, IF BLOOD IS DRAWN AT 133 MINS INSTEAD OF 120 MINS, DOCUMENT BLOOD DRAWN @ 133 MINS.
- TIME SHOULD BE RECORDED IMMEDIATELY AFTER EACH BLOOD SAMPLE IS OBTAINED (i.e., B1, B2).

**POST VITALS SHOULD BE TAKEN 10 MINUTES AFTER INFUSION
USING LOCAL BLOOD PRESSURE MEASUREMENT (i.e. DINAMAP)**

- If rash develops after lohexol Infusion, consider it a reaction to lohexol and notify PI immediately. Consider administration of 1 mg/kg Benadryl IV (maximum dose: 50 mg Benadryl IV).
- In the rare event that systolic BP decreases more than 25 mm Hg, diastolic BP decreases more than 20 mmHg, or pulse increases more than 20 beats per min, notify PI immediately to evaluate reaction and complete the Adverse Event (ADVR) Form. Consider the possibility of an anaphylactic reaction to lohexol. Consider administration of 1 mg/kg Benadryl IV (maximum dose: 50 mg Benadryl IV). Draw up to 0.1 mL 1:1000 Epinephrine for SQ injection and 2 mg/kg Solumedrol IV for administration as ordered by physician.

(i) Post Vitals:		
G2a.	Post- infusion blood pressure:	____ / ____
b.	Post-infusion temperature:	____.____ 1 = °C 2 = °F
c.	Post-infusion number of heart beats per minute:	____
d.	Post-infusion respirations per minute:	____

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INVERT TUBE 5-10 TIMES AFTER EACH BLOOD DRAW
LET SST TUBE STAND 30 MINUTES (BUT NO LONGER THAN 1 HOUR)
CENTRIFUGE AT MAX SPEED BETWEEN 1100-1300g (3000rpm with 10cm radius rotor) for 10 MINUTES IN SWING HEAD
OR 15 MINUTES IN FIXED ANGLE (BALANCE TUBES IN CENTRIFUGE)

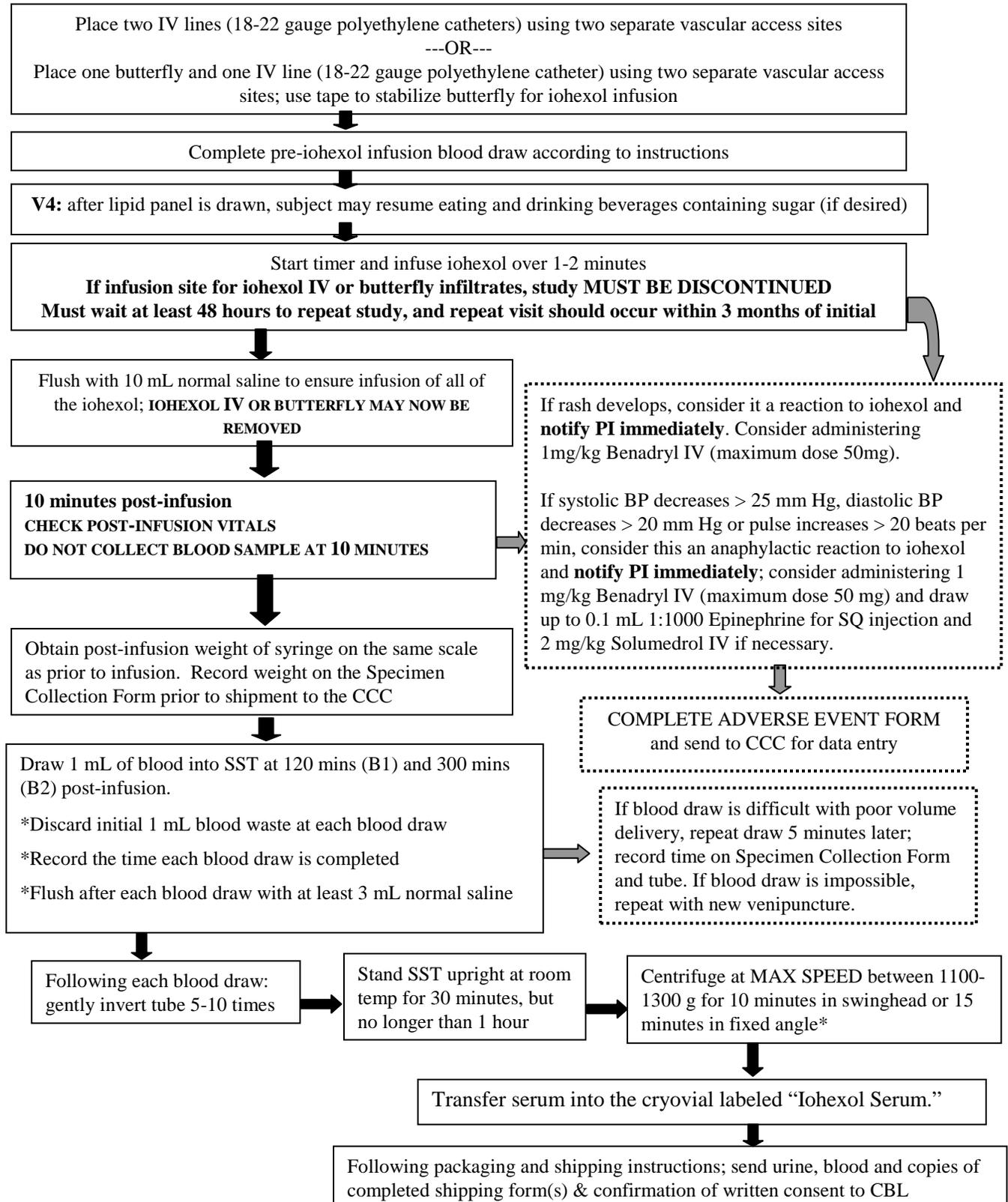
	ALL TIMES should be documented from the initial infusion time	(i) ACTUAL HOURS/ MINUTES on TIMER	(ii) ONLY if Timer malfunctions, record Clock Time using the same clock used for G1a	(iii) Difficult Blood Draw:		(iv) Blood Volume Collected (1 mL):	(v) Centrifuged at Clinical Site:	
				Yes	No		Yes	No
G3a.	B1 2 hrs (120 min):	___ hr ___ mins	___ : ___ 1 = AM 2 = PM	1 (Skip to b)	2	___ . ___ mL	1 (Skip to G4a)	2 (Skip to G4a)
b.	B1 2nd attempt:	___ hr ___ mins	___ : ___ 1 = AM 2 = PM	1	2	___ . ___ mL	1	2
G4a.	B2 5 hrs (300 min):	___ hr ___ mins	___ : ___ 1 = AM 2 = PM	1 (Skip to b)	2	___ . ___ mL	1 (Skip to H1)	2 (Skip to H1)
b.	B2 2nd attempt:	___ hr ___ mins	___ : ___ 1 = AM 2 = PM	1	2	___ . ___ mL	1	2

**IF FAMILY CONSENTED TO THE COLLECTION OF HAIR AND NAIL SAMPLES AT VISIT 4,
 THEN PROCEED TO SECTION H
 (SEE QUESTIONS ON PAGE 13)**



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Instructions for Iohexol Infusion and GFR Blood Draws



Physician should be immediately available (in person or by phone) during Iohexol Infusion
Encourage fluids throughout the visit.

*1100-1300 g = 3000 rpm with 10 cm radius rotor

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H2. Were 10 toenail clippings collected?

Yes..... 1 **(END)**

No..... 2

a. How many toenail clippings were collected?

___ ___

b. Specify reason "10" toenail clippings were not collected: (e.g., Nail fungus or discoloration causing pain or discomfort)

Nail fungus or discoloration..... 1 **(END)**

Nails not long enough..... 2 **(END)**

Participant Refused..... -7 **(END)**

Other..... 3

i. Specify: _____
