PERFORMING VENIPUNCTURE AT KP RIVERSIDE

Purpose

To provide instructions on how to perform the venipuncture technique of phlebotomy.

Policy

Whenever possible, venipuncture will be the technique of choice for phlebotomy at the Riverside Laboratory and its satellite laboratories. Phlebotomist must follow the order below for the antecubital veins subject to venipuncture:

- Median cubital vein (median vein) – first choice, it is usually large and well-anchored, making it the easiest and least painful to puncture and also the least likely to bruise.
- Cephalic vein (outermost vein) – second choice, it is often harder to palpate than the median cubital, but is fairly well-anchored. It is often the only vein that can be palpated (felt) in obese patients.
- Basilic vein – third choice, generally easy to palpate, but it is not as well-anchored and rolls, bruises more easily, and tends to be more painful to the patient.
- Foot & leg veins are last resort because of the higher probability of complications and must be done only with a written physician order.

Positive identification of the patient must be made by the phlebotomist prior to each phlebotomy procedure. The following 2 identifiers are used:

- Inpatient – patient's name and medical record number
- Outpatient – patient's name and date of birth

Laboratory policy allows two attempts per phlebotomist. If after the second attempt is still unsuccessful, another phlebotomist must draw the patient. If still unsuccessful, notify the Nurse In Charge of the patient.

Continued on next page

PERFORMING VENIPUNCTURE AT KP RIVERSIDE, *Continued*

All needles or other blood-letting devices must be used only once and immediately disposed of properly in a sharps container. If a needle is pulled off the skin, that needle is considered used and you must use a new needle before you attempt a second venipuncture. This policy prohibits recapping, purposeful bending, breaking, removing from disposable syringe, or other manual manipulation of needles.

For Inpatient Phlebotomy, gloves and tourniquets must be replaced after every patient blood collection. Wash hands using alcohol gel or with a hand soap for at least 20 sec. after every inpatient collection.
Inpatient in Isolation rooms, below procedure must be followed:

1. When entering or leaving an isolation room, personnel must follow hospital isolation policy & procedure and adhere to requirements stated on the isolation category card posted outside the isolation rooms. If in doubt, always seek guidance to the patient attending nurse or Charge Nurse.
2. Prepare venipuncture equipment and bring/use the least amount needed inside the isolation room. Prevent direct contact of KPPI handheld & printer with patient in isolation rooms.
3. All needles, syringes, tourniquets, gloves, masks, coats and other personal protective equipment (PPE) which have come into contact with such patients are disposed of appropriately on sharps & waste containers designated by the hospital isolation policy & procedure.
4. Isolation specimens: Universal Precaution is exercised in handling all laboratory specimens.

For Outpatient Phlebotomy, gloves must be replaced after every patient blood collection while the tourniquet is replaced at the discretion of the phlebotomist or patient request. Wash hands using alcohol gel for at least 20 sec. after every outpatient collection.

Continued on next page

PERFORMING VENIPUNCTURE AT KP RIVERSIDE, *Continued*

If a patient is with IV on one arm, the phlebotomist must obtain blood specimen from the other arm without IV.

The laboratory shall not obtain blood from the following patients:

- Patients with central line.
- Blood specimens for blood gas testing.
- If the patient has had a mastectomy on both sides or from an arm on the same side as a mastectomy (breast removal), unless there is physician's authorization.

Label specimen tube(s) in the presence of the patient after every blood collection.

Do not use expired phlebotomy supplies. e.g.(vacutainer tubes)

Continued on next page

PERFORMING VENIPUNCTURE AT KP RIVERSIDE, *Continued*

Before you begin

Follow the steps on the table below:

Step	Action
1	Ensure that you have a written or electronic requisition initiated for the patient bearing the following: • Patient's name (last, first) • Patient's medical record number • Name and location of ordering provider • Patient's room #, if inpatient • Test(s) ordered Optional: patient's middle initial, date of birth, and gender
2	Positively identify the patient. (Refer to *Patient Identification Procedure).* Resolve patient identification-related problems prior to venipuncture.
3	Ensure that the patient is positioned comfortably. **Note:** Do not let the patient stand or sit on a high stool. Reclining of supine position is preferred; sitting in a sturdy, comfortable chair is acceptable.
4	Prepare equipment required to complete the procedure. Materials needed: • Vacutainer tubes • Eclipse Needle or Butterfly Needle (For hard stick) • Needle Holder • Tourniquet • Gauze • Tape **Note:** Stored all supplies per manufacture's instructions.
5	Observe laboratory policy on use of gloves and hand washing.
6	Proceed with the venipuncture procedure

Continued on next page

PERFORMING VENIPUNCTURE AT KP RIVERSIDE, *Continued*

Venipuncture procedure

To perform a venipuncture, follow the steps described in the table below.

<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td></td><td>Selecting and Positioning Venipuncture Site</td></tr>
<tr><td>1</td><td>Position the patient's arm and expose an arm vein by slightly rotating the arm or hand.</td></tr>
<tr><td>2</td><td>Support the arm by placing it on top of a pillow or elbow rests wedged foam.</td></tr>
<tr><td>3</td><td>Apply the tourniquet.
• Stretch both ends of the tourniquet and place slightly above the elbow.
• Tie it around the arm, making a partial loop to allow for easy release during or after the procedure.
• Palpate the area to feel the vein.
Note: "Do not leave tourniquet on for more than one minute on patient arm"</td></tr>
<tr><td></td><td>
<table>
<tr><th>If the vein ....</th><th>Then ....</th></tr>
<tr><td>Does not surface,</td><td>• Ask patient to clench/unclench fist or
• Remove the tourniquet, ask patient to hang arm loose next to side for 1-2 minutes, then reapply the tourniquet or apply a micro-wave warm towel.</td></tr>
</table>
</td></tr>
</table>

Continued on next page

PERFORMING VENIPUNCTURE AT KP RIVERSIDE, *Continued*

Venipuncture procedure (continued)

<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td></td><td>
<table>
<tr><th>If the vein ....</th><th>Then ....</th></tr>
<tr><td>Surfaces</td><td>Proceed to the next step.</td></tr>
</table>
</td></tr>
<tr><td></td><td>Decontaminating the Venipuncture Site</td></tr>
<tr><td>1</td><td>Use alcohol pre-pad 70% isopropranol; vigorously rub the site, in concentric circle, working from the inside out.</td></tr>
<tr><td></td><td>
<table>
<tr><th>If test is ....</th><th>Then ....</th></tr>
<tr><td>Blood culture</td><td>Use ChloraPrep Applicator (Chlorhexidine Gluconate)</td></tr>
<tr><td>Blood alcohol</td><td>Use betadine swab. <u>Do not use alcohol or ChloraPrep pads.</u></td></tr>
</table>
</td></tr>
<tr><td>2</td><td>Allow the site to air-dry or wipe with sterile gauze.
Note: Drying the site prevents specimen hemolysis and burning sensation to the patient when the needle is inserted.</td></tr>
<tr><td>3</td><td>If vein needs to be repalpated, sterilize your fingertip prior to palpating.</td></tr>
</table>

Continued on next page

PERFORMING VENIPUNCTURE AT KP RIVERSIDE, *Continued*

Venipuncture procedure (continued)

Step	Action
	Inserting the Needle into the Vein
1	Thread a safety vacutainer needle into the appropriate plastic holder until the needle is secure.
2	Hold the patient's arm firmly below the intended puncture site and pull the skin tightly with your thumb to anchor the vein.
3	• Point the bevel site upwards and directly above a prominent vein or slightly below the palpable vein • Insert the needle at approximately 15° angle with the skin. **Note:** The needle should run the same direction as the vein. A slight "pop" can be felt when the needle enters the vein.
4	Palpate the vein with one hand after needle insertion, if vein was not hit.
	Blood Withdrawal
1	Following the recommended "order of draw", carefully push the vacutainer tube into the plastic holder, thereby puncturing the tube stopper with the other end of the needle.
2	• Allow the blood to flow into the tube • Filling tube until vacuum is exhausted and blood flow ceases • Ensure that adequate blood is collected and/or correct anticoagulant to blood ratio is achieved.
3	As blood begins to flow into the tube, instruct the patient to open fist. You may release the tourniquet at this point to: • Allow blood circulation to return to normal • Reduce bleeding at the puncture site after the procedure

Continued on next page

PERFORMING VENIPUNCTURE AT KP RIVERSIDE, *Continued*

Venipuncture procedure (continued)

Step	Action
3	If performing multiple sample draw, gently remove the first tube from the plastic holder and insert the next tube.
4	Repeat step #2 until all required tubes are filled.
5	Gently invert anticoagulated tubes to ensure adequate mixing. Refer to table below.
6	Release the tourniquet, if you have not done so. **Note**: "Do not leave the tourniquet on for more than one minute on patient arm"
	Needle Removal and Disposal
1	When the last collection tube is filled:
2	Lightly place a gauze pad over the puncture site.
3	Apply slight pressure to the pad or swab and remove the needle slowly. Immediately activate the safety shield before disposing into a sharps container.
4	Immediately dispose needle and holder (do not detach needle from holder) into the sharps container.
	Puncture Site Care Instructions
1	Apply an adhesive or hypoallergenic tape over the gauze pad.
2	Instruct patient to: • Apply pressure on the puncture site • Leave adhesive or tape for about 15 minutes • Keep arm straight or elevated above the heart
3	Alert the nurse (inpatients) or apply additional pressure (outpatients) if bleeding persists longer than 5 minutes. . (Refer to *LPHS4020 Adverse Reaction to Phlebotomy Procedure).*

Continued on next page

PERFORMING VENIPUNCTURE AT KP RIVERSIDE, *Illustrated*

Purpose

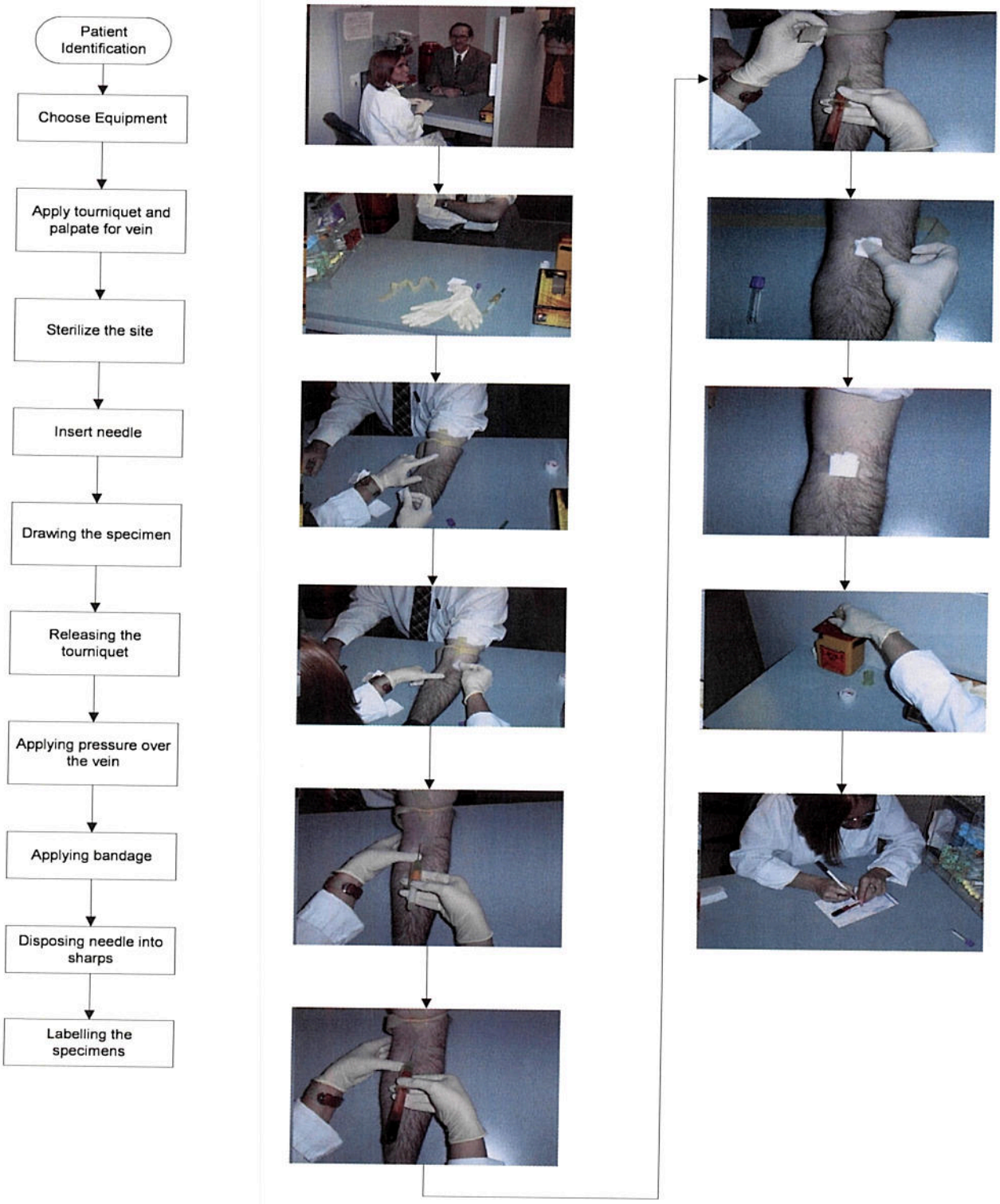
To illustrate the process of performing venipuncture.

Process

The flowchart below illustrates the process of performing venipuncture at Riverside Clinical Laboratories.

Continued on next page

PERFORMING VENIPUNCTURE AT KP RIVERSIDE, *Illustrated*



PERFROMING VENIPUNCTURE AT KP RIVERSIDE, *Continued*

Process (continued)

Step	Action
	Tube Labeling
1	Apply appropriate label to each tube in the presence of the patient. • Labels from KPPI or KRMS-generated inpatient requisitions • KRMS-generated collection labels for outpatients

Order of Draw and Mixing by Inversion

When performing multiple sample draw, the table below is the recommended overall "order of draw" (⇩) and number times of mixing by inversion:

•

ORDER OF DRAW ⇩

Closure Color		Collection Tube	Mix by Inverting
Glass Tubes	*Plastic Tubes*		
		Blood Cultures	8 to 10 times
Red	n/a	Serum Tube (Glass)	-
n/a	**Blue**	Citrate Tube	3 to 4 times
n/a	**Gold**	SST Gel Separator Tube	5 times
n/a	**Red**	Serum Tube (Plastic)	5 times
n/a	**Green**	Heparin Tube	8 to 10 times
n/a	**Light Green**	PST Gel Separator Tube with Heparin	8 to 10 times
n/a	**Purple**	EDTA Tube	8 to 10 times
n/a	**Grey**	Fluoride (Glucose) Tube	8 to 10 times

Continued on next page

PERFORMING VENIPUNCTURE AT KP RIVERSIDE, *Continued*

Unsuccessful first attempt

Perform one or more of the following if the first venipuncture attempt is not successful:

Step	Action
1	Change the position of the needle or use a smaller gauge needle, e.g., butterfly.
	If the needle has .... / **Then ....** Penetrated too far into the vein / Pull it back and rotate half a turn. Not penetrated far enough into the vein / Advance it farther into the vein and rotate half a turn.
2	Replace vacutainer tube with a new one to eliminate possibility of insufficient vacuum.
3	Loosen the tourniquet.
4	Ask another phlebotomist to try the procedure.

Patient ID procedure for central line phlebotomy

The Laboratory shall not obtain blood from patients with central lines.

The table below outlines the patient identification procedure to be used when:

- the laboratory phlebotomist is informed that the patient (for whom he/she has requisitions) has a central line.
- the laboratory phlebotomist is already in the nursing unit where central line phlebotomy is to be performed.
- the laboratory phlebotomist should not give pre-print labels from KPPI handheld to the nurse.

Step	Action
1	Inform patient's nurse of the need for central line phlebotomy.
2	Give required vacutainer tubes to the nurse who will draw from the central line.

Continued on next page

PERFORMING VENIPUNCTURE AT KP RIVERSIDE, *Continued*

Patient ID procedure for central line phlebotomy **(continued)**

Step	Action
3	Stay with the nurse until blood is drawn into required vacutainer tubes.
4	Ensure that all tubes are labeled and initialed by the nurse.
6	• Accept blood specimens from the nurse or nurse may directly sent specimens via pneumatic tube system. • Follow laboratory procedure for specimen handling and transport.

Patient with IV. If a patient is with IV on one arm, the lab phlebotomist must obtain blood specimen from the other arm without IV.

If a patient is with IV in both arms or if arms with IV is the only site, follow the procedure below:

Step	Action
1	Ask the patient's nurse to stop the IV for 10 minutes.
2	Put tourniquet below the IV and draw the blood using different vein.
3	Draw approximately 5 cc. first with a plain red and discard. Then collect your specimen.
4	Do fingerstick if it only CBC.
6	Laboratory phlebotomists must ask for help if unsuccessful after the second attempt.

Continued on next page

PERFORMING VENIPUNCTURE AT KP RIVERSIDE, *Continued*

Controlled Document(s)

The table below lists the controlled document(s) for this policy.

Document Number	Document Name
I	Venipuncture & Skin Puncture (Archive)
	Standard Precautions and Safety Practices in the Laboratory
	Infection Control
	Universal Body Substance Precautions
	Handling of Regular and Infectious Waste
LPHS4060	Proper Hand-Washing
LPHS4010	Patient Identification Out Patient
LPHS4020	Patient Identification In Patient
LPHS4090	Adverse Reaction to Phlebotomy
LPHS4100	Specimen Collection one label – one tube policy

Non-Controlled Documents

Clinical and Laboratory Standards Institute (CLSI). Established the standard of care for phlebotomy.

Document Number	Document Name
H3-A6	Blood Specimen Collection by Venipuncture

Author

Carlo E. Punu, MT, CLS

Continued on next page

PERFORMING VENIPUNCTURE AT KP RIVERSIDE, *Continued*

Distributions

Kaiser Permanente Riverside Medical Center Laboratory
SCPMG Wildomar Medical Office Laboratory
SCPMG Corona Medical Office Laboratory
SCPMG Temecula Medical Office Laboratory
SCPMG Moreno Valley Heacock Medical Office Laboratory
SCPMG Moreno Valley Iris Medical Office Laboratory
SCPMG Meridian Medical Office laboratory
SCPMG Palm Springs Medical Office Laboratory
SCPMG Palm Desert Medical Office Laboratory
SCPMG Indio Medical Office Laboratory

Reviewed and approved by:

SIGNATURE	DATE
Denise Topliff	2-16-15
Denise Topliff, MHA, CLS **Director, Clinical Laboratory – Riverside Medical Center**	
Mark J. Taira	2/16/15
Mark Taira, M.D. **Medical Director, Clinical Laboratory – Riverside Medical Center**	

PERFORMING VENIPUNCTURE AT KP RIVERSIDE, *Continued*

HISTORY PAGE

Effective Date: **10-15-2012**

Change type: New, major, minor	Changes made to SOP - describe	Signature responsible person/date	Medical Director review/date	Laboratory Director review/date	Date change implemented
New	New format, updated & revised	C.Punu 08/02/12	D. Quach,MD 09/07/12	D.Topliff 08/04/12	10-15-12
Minor	Change in Lab Directorship. Added Iris & Meridian MOB to distribution list.	C.Punu 03-18-14	M.Taira MD 03-19-14	D.Topliff 03-21-14	03-31-14
Major	Added no manual manipulation of needles per CAP GEN.74300 (pg. 2)	C.Punu 07-25-14	M.Taira MD 07-25-14	D.Topliff 07-25-14	08-08-14
Major	Added Inpatient Isolation rooms procedures to be followed (pg.2)	2/16/2015	2/16/15	2/16/15	02-20-15