TITLE: Patient Reactions/Complications/Adverse Reactions to Blood Collection

PRINCIPLE / PURPOSE: Adverse reactions from blood collection can occur and personnel collecting blood specimens must know what can occur and how best to

manage the reactions. This addresses some adverse reactions and what should be done to address these reactions.

SCOPE: This applies to adverse patient reactions/complications to blood draws in both inpatient and outpatient locations.

EQUIPMENT AND MATERIALS:

Equipment: Fan, Emergency notification button (nurse call bell, or lab Emergency Notification Button), telephone

Materials: 2x2 guaze, bandges, ice, cold compress, emesis basin, water, juice

PROCEDURE:

1. Be vigilant in watching for signs and symptoms of complications.
2. Address the complication as follows:
   1. Bruising/Hematoma: Blood can leak out of a vein and under the skin during venipuncture. This can cause discomfort and pain and can complicate further collections from that site. As soon as a hematoma is noted, remove the needle and tourniquet and apply pressure at the site for a minimum of 3 minutes. Check the site and if the hematoma has stopped forming, put on a bandage or gauze with tape and inform the patient of the hematoma. The bandage should remain in place for a minimum of a half hour.

If swelling occurs, apply ice, elevate the area and notify nursing.

Repeat the venipuncture in another site with a new sterile needle if needed.

* 1. Pain: Since nerves are very close to veins and arteries, there is some risk a nerve may be pierced by a needle during blood collection. The patient will complain that he/she feels an electric shock going up his/her arm. Immediately remove the needle from the patient’s arm and put pressure on the site. Ask the patient if the sensation has stopped. If so, try to redraw at another site if the patient is willing.

Explain to the patient that a nerve was touched by the needle and that was

what he/she felt. Ask them to let us know if they have any more numbness,

weakness, or shocking sensations at the first site. See Nerve Damage.

* 1. Nerve Damage: If a nerve has been pierced or cut, the patient will feel pain or numbness or a shocking sensation as discussed above. If the patient continuesto have these symptoms once the needle has been removed, notify nursing. If the patient is an outpatient, contact the Administrative Coordinator (nursing supervisor). Patient may need to be examined for nerve damage.

Nerve damage is a rare and unpredictable complication of venipuncture.

There are no known preventative measures. Early diagnosis and proper

treatment provide significant pain relief.

* 1. Vasovagal reaction (Faint): A reflex of the involuntary nervous system that causes the heart to slow down (bradycardia) and, at the same time, affects the nerves to the blood vessels in the legs permitting those vessels to dilate (widen). As a result the heart puts out less blood, the blood pressure drops, and what blood is circulating tends to go into the legs rather than to the head. The brain is deprived of oxygen and the fainting episode occurs. The vasovagal reaction is also called a vasovagal attack.

When a patient is about to faint, he/she becomes pale and sweaty. Other

signs to note include pallor, perspiration, hyperventilation and a patient who

goes from talkative to silent.

Keep an eye out for these symptoms and be ready to prevent a fall if the

patient should faint. Stop collection immediately and help control the patient

to prevent injury.

Use the Emergency Notification Button if accessible in patient areas so

equipped to summon additional assistance. DO NOT LEAVE THE PATIENT

UNATTENDED.

Call the Administrative Coordinator (nursing supervisor) for assistance. If they

are not available, reach out to special recovery and the emergency room to

find an available nurse.

For comfort measures, apply a cold wet cloth to the back of the neck, loosen

any tight clothing , and turn on the fan. Where practical, lay the patient flat or

lower his/her head and arms. Another option is to raise the patient’s feet

and/or have them lie their head down. Provide a glass of water or juice if

he/she desires it.

Nursing staff will take over once they arrive. Repeat the venipuncture in

another site with a new sterile needle if needed once the patient recovers.

* 1. Nausea: Make the patient as comfortable as possible with his/her head lowered. Instruct the patient to breathe slowly. Apply cold compresses to the forehead. Turn on the fan and press the Emergency Notification Button if needed. Notify nursing personnel.
  2. Vomiting: Roll prone patients onto side. Give the patient a basin. Give the patient water to rinse their mouth and towel. Notify nursing personnel.
  3. Convulsions/Seizures: Guard the patient from self-injury without completely restraining. Use the Emergency Notification Button to request assistance. Call CODE BLUE
  4. Arterial puncture: If the blood pulses into the collection system or fills collection tubes rapidly and is bright red, an artery has been punctured. If no hematoma is forming and the patient is not under any noted duress, continue the collection without the tourniquet and than apply pressure for a minimum of 5 minutes. Check the site before applying a bandage to ensure the artery has sealed and notify the patient that the site needs to have a bandage on it for an hour and not to use the arm for lifting any thing over 5 pounds for the day. Let the patient know there may be more discomfort at the site than if the draw was a venipuncture draw.

Notify testing personnel and make a note in the LIS that the specimen obtained was arterial.

* 1. Excessive Bleeding / Re-Bleed: Patients with some liver disease, vascular diseases, clotting disorders, or medications may complicate normal clotting post a blood collection. Hot temperatures outside may cause a site to re-bleed because the veins dilate to cool the body. Always check the site after holding it and keeping the patient sitting and their arm slightly bent. If the bleeding has not stopped, continue to apply pressure. Commonly, if the site is held at least 5 minutes, the bandage is kept in place for one hour and the patient does not lift objects over 5 pounds for that same period, the site should seal and not re-bleed. The patient may have more bruising than usually because of the causes mentioned and this should be explained to the patient.
  2. Allergy: Some patients may have itching or burning at the collection site. Rashes or hives may form near the site. Cone Health is latex free to ensure our equipment does not have any latex, which has been a common allergy among some patients. If these symptoms or signs are severe or the patient is having difficultly breathing, stop the collection immediately and call a CODE BLUE
  3. Phlebitis is inflammation of a vein. Thrombophlebitis is due to one or more blood clots in a vein that cause inflammation. Thrombophlebitis usually occurs in leg veins, but it may occur in an arm. The thrombus in the vein causes pain and irritation and may block blood flow in the veins. Phlebitis can occur in both the surface (superficial) or deep veins.
* Superficial phlebitis affects veins on the skin surface. The condition is rarely serious and, with proper care, usually resolves rapidly. There is usually a slow onset of a tender red area along the superficial veins on the skin. A long, thin red area may be seen as the inflammation follows a superficial vein.

• This area may feel hard, warm, and tender. The skin around the vein

may be itchy and swollen.

• The area may begin to throb or burn.

• A low-grade fever may occur.

• Sometimes phlebitis may occur where a peripheral intravenous line

was started. The surrounding area may be sore and tender along the

vein.

• If an infection is present, symptoms may include redness, fever, pain,

swelling, or breakdown of the skin.

• Sometimes people with superficial phlebitis also get deep vein

thrombophlebitis, so a medical evaluation is necessary.

• Avoid these areas for blood collection and notify inpatient nursing or

the nursing supervisor.

* Deep Vein Thrombosis affects the larger blood vessels deep in the

legs. Large blood clots can form, which may break off and travel to the

lungs. This is a serious condition called pulmonary embolism and must

be treated immediately by a doctor. Notify inpatient nursing or the

Administrative Coordinator (nursing supervisor).

* 1. Anxiety/fear: Patients, especially children under the age of 12 or mentally disabled persons, may show anxiety and/or fear when they present for blood collection. Take the time to explain to the patient exactly what will happen at the patient’s level of understanding. Ask care givers to assist with calming

the patient. Then seek out help to hold the arm still during collection and

make sure you let the patient know each step you are doing and what he/she

will be feeling. Use a focus point for the patient to look at while you draw like

a caregiver, a stuffed animal, some stickers, or something else in the room

away from the site of collection. Remain calm and comforting. If the patient

refuses, notify medical staff immediately for instructions.

1. Document the incident in the electronic occurrence reporting system

PROCEDURE NOTES:

To reach Administrative Coordinator (Nursing Supervisor) - page 513-3141

To reach Special Recovery - extension -7594

To reach Emergency Room - extension -7050

To initiate a CODE BLUE - Dial “3333” on any hospital telephone. Inform the operator of the medical emergency and the location of the victim.

RELATED PROCEDURES:

[SPCL-205\_Venipuncture](http://infonet.armc.com/departments/Lab/ARMC%20Lab%20Policies%20and%20Procedures/Specimen%20Collection,%20Labeling%20and%20Transport%20Manual/Collection%20Procedures/SPCL-205.docx) [[Capillary\_Puncture\_Procedure](http://infonet/Policies%20and%20Procedures/Laboratory/Phlebotomoy%20Collection/02%20Capillary%20Procedure.doc)](http://infonet/Policies%20and%20Procedures/Laboratory/Phlebotomoy%20Collection/02%20Capillary%20Procedure.doc)

[[Coagulation\_Specimen\_Collection](http://infonet/Policies%20and%20Procedures/Laboratory/Phlebotomoy%20Collection/03%20Coag%20Specimen%20Collection.doc)](http://infonet/Policies%20and%20Procedures/Laboratory/Phlebotomoy%20Collection/03%20Coag%20Specimen%20Collection.doc) [SPCL-208\_Blood\_Culture\_Collection](http://infonet.armc.com/departments/Lab/ARMC%20Lab%20Policies%20and%20Procedures/Specimen%20Collection,%20Labeling%20and%20Transport%20Manual/Collection%20Procedures/SPCL-208.doc)

[[Urine\_Collection\_Procedure](http://infonet/Policies%20and%20Procedures/Laboratory/Non-Phlebotomy%20Collection/03%20Urine%20Collection%20for%20Routine%20Urinalysis.DOC)](http://infonet/Policies%20and%20Procedures/Laboratory/Non-Phlebotomy%20Collection/03%20Urine%20Collection%20for%20Routine%20Urinalysis.DOC) H-PC-500-10

Guideline for Use of Fan in the Outpatient Draw Area

SUPPLEMENTAL MATERIALS/ADDENDUM: Electronic Occurence Reports

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HISTORY PAGE

SOP Number: SPCL-256

SOP Title: Patient Reactions/Complications/Adverse Reactions to Blood Draw

Written By: Wendy Turner, MT (ASCP)

Manual in which Hard Copy of this SOP is located: Specimen Collection

Distribution: none

Supersedes Procedure:

SOP CHANGE CONTROL

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