CAPILLARY BLOOD DRAW - FINGERPRICK SOP

SOP Code	SOP ContAct002-02
Effective Date	02-APR-2025

A. PURPOSE AND BACKGROUND

Performing a procedure on tissue below the dermis is considered a controlled act. This SOP describes the procedures for researchers to collect capillary (finger prick) blood samples from adult study participants. **A separate SOP is to be followed for youth and children.**

B. PROCEDURES/STUDY PROTOCOL

1. The researcher washes hands thoroughly with soap and warm water or an alcohol-based sanitizer. Hands are to be properly cleaned before the gloves are put on and after the gloves are removed. Hand hygiene is also needed before and after the replacement of gloves during a procedure or in between tasks. The use of gloves does not replace the need for hand hygiene.

2. The researcher informs the participant the procedure is often performed on the ring finger of the non-dominant hand to minimize interference with daily routines and asks the participant which finger they prefer the blood to be drawn from.

3. The participant may be asked to warm their hands in warm water and/or keep their hands below the waist and/or massage the fingers to increase blood flow to the fingers.

4. The participant is asked to sit in a position that provides the researcher access to the finger and is comfortable for the participant. The position must minimize risk of injury in the event of fainting. The participant may also lie down if there is any history or concern with fainting.

5. The finger identified by the participant is cleaned with an alcohol wipe and allowed to dry. The alcohol needs to dry to ensure the area is disinfected and to prevent additional discomfort for the participant (i.e., stinging feeling).

6. The blood sample is collected using a single-use safety lancet. To take the blood sample, the researcher punctures the skin in the fleshy part of the finger pad approximately 1 cm from the tip of the finger between the midpoint and side of the finger (i.e., middle of the palmar side of the terminal phalanx).

7. The blood sample is collected either by paper strips or capillary tubes depending on the biochemical analyses to be performed.

8. Upon completion of the blood draw, a cotton ball/swab is pressed on the fingertip and the participant is asked to sit still and apply pressure to stop the bleeding and reduce the risk of bruising (30 to 60 seconds).

9. The researcher disposes of the lancet directly into the sharps disposal container.

10. Once the bleeding has stopped, the participant is offered a bandage to apply over the puncture area and the participant is asked to sit for a minimum of 5 minutes.

11. The participant is informed there may be bruising at the site of the puncture for the next few days and advised to keep the puncture area clean/dry to promote rapid healing.

12. The participant is informed that there is a rare risk of infection and to watch for redness, pain, swelling, and/or fever.

C. EQUIPMENT

- Single-use safety lancets
- Paper strips and/or capillary tubes
- Finger prick device (approved for use)
- Nitrile/vinyl gloves
- Alcohol wipes
- Cotton balls/swabs
- Bandages

Disposable, single use materials or equipment are to be used whenever possible and any reusable materials or equipment must be cleaned and disinfected with alcohol-based sanitizers before use with another participant.

D. DESCRIPTION TO STUDY PARTCIPANTS

1. Each individual interested in participating is asked if they are:
    - comfortable having blood drawn, and
    - have allergies/sensitivities to rubbing alcohol or adhesives.

2. Individuals who indicate they are uncomfortable with the procedure and/or are allergic/sensitive to rubbing alcohol should not participate in the blood draw. Appropriate bandages/tape are used on individuals who are sensitive to adhesives.

3. The information-consent letter must include the following:
    - An overview of the training and experience of the person performing the finger prick. If an individual has been delegated this task, a description that a physician has authorized the trained and qualified person to carry out the procedure, ensuring it is done safely and within legal guidelines.
    - A description of the finger prick procedure: the procedure requires wiping an area of the skin with rubbing alcohol followed by pricking the finger pad with a device similar to one used by diabetics for routine blood glucose monitoring.
    - The specific type of device to be used for finger pricking.
    - The number of pricks and the number of fingers to be pricked.
    - The risks and safeguards.
    - Participants can ask questions or ask to stop the procedure at any time.

E. RISKS

1. Participants
    - Bruising at site of lancet puncture
    - Feelings of lightheadedness or fainting
    - Excessive bleeding
    - Risk of infection

2. Researchers
    - Mucous membrane blood exposure or needle stick injury

F. SAFEGUARDS/SAFETY PROCEDURES

1. Researcher is to have completed:
    - First Aid/CPR training
    - Any required safety training from the UWaterloo Safety Office
2. Universal precautions are to be applied at all times. Refer to the UWaterloo Occupational Health guideline: Universal Precautions | Occupational Health | University of Waterloo (uwaterloo.ca)
3. Researcher must follow UWaterloo Safety Office guidelines on use of personal protective equipment and specifically use of gloves. See Personal Protective Equipment (PPE) | Safety Office (uwaterloo.ca)
4. A new pair of disposable nitrile/vinyl gloves are used with each participant. Gloves are for single procedure use only. Gloves should always be removed using a glove-to-glove/skin-to-skin technique to prevent contaminating the hands. Gloves are to be disposed in an appropriate container.
5. Participant is asked to apply pressure for 30 to 60 seconds to stop bleeding and reduce the risk of bruising.
6. To reduce risk of injury from fainting and lightheadedness, the participant is to sit or lie down. The participant can be offered juice if feeling faint or lightheaded.
7. Researcher is to follow emergency procedures for uncontrolled excessive bleeding, unconsciousness, or other unexpected reactions requiring attention.
8. Researcher is to follow the Region of Waterloo posted procedures for post exposure management for blood-borne pathogens in the event of a mucous membrane blood exposure or needle stick injury: https://www.regionofwaterloo.ca/en/health-and-wellness/resources/Documents/Blood_Exposure_Guidelines_EMS.pdf

G. REFERENCES

1. Public Health Ontario (2013). *Best Practices for Cleaning Disinfection and Sterilization of Medical Equipment/Devices in all Health Care Settings, 3rd edition.* Retrieved March 26, 2025, from bp-cleaning-disinfection-sterilization-hcs.pdf (publichealthontario.ca)

2. Public Health Ontario (2015). *Infection Prevention and Control for Clinical Office Practice.* Retrieved on March 27, 2025 from bp-clinical-office-practice.pdf (publichealthontario.ca)

3. University of Waterloo Office of Research Ethics (2013). *Human Participant Research Guidelines: Controlled Acts and the Delegation of Controlled Acts.* Retrieved on March 27, 2025 from Controlled acts and medical directives | Research (uwaterloo.ca)

SOP Code	Effective Date	Summary of Changes
SOP ContAct-002-01	07-FEB-2017	Original
SOP ContAct-002-02	02-APR-2025	Updates to procedures, description to participants, risks, and safeguards. Updates to links for researchers. Updates to references.