

Best Practice in Phlebotomy (Infection Prevention and Control)

This document summarises the infection control guidance provided in the WORLD HEALTH ORGANIZATION guidelines on drawing blood: best practices in phlebotomy 2010

These are best practice guidelines, rather than national standards. However, practices should be achieving the recommendations to protect patients and staff, or have a risk assessment to justify non-adherence.

Summary:

Best Practice DO's	Best Practice DO NOT's
DO carry out hand hygiene (use soap and water or alcohol rub) before and after each patient procedure	DO NOT forget to clean your hands
DO use one pair of non-sterile gloves per procedure or patient	DO NOT use the same pair of gloves for more than one patient. DO NOT wash gloves for reuse
DO use a single-use device for blood sampling	DO NOT use a needle, lancet or vacutainer for more than one patient
DO use a clean elastic tourniquet reprocessed between patients	DO NOT use a visibly dirty or unprocessed tourniquet between patients
DO disinfect the skin at the venepuncture site	DO NOT touch the puncture site after disinfecting it
DO use a closed vacuum system for blood sampling	DO NOT use needles and syringes to take blood or inject blood into laboratory sample tubes
DO discard the used device (a needle and vacutainer is a single unit) immediately into a sharps container	DO NOT leave an unprotected needle lying outside the sharps container or dismantle sharps
DO seal the sharps container with a tamper-proof lid	DO NOT overfill or decant a sharps container
DO immediately report any incident or accident linked to a sharp injury, and seek assistance	DO NOT delay seeking assistance after exposure to potentially contaminated material; beyond 72 hours, Post-exposure Prophylaxis is NOT effective

Core Best Practice Standards:

Training:

- To reduce the risk of adverse effects for patients, health workers undertaking phlebotomy need to be trained in procedures specific to the types of specimen they collect

Phlebotomy Environment:

- Blood should be taken in a dedicated location that ensures patient comfort and privacy
- The dedicated area should include:
 - a clean surface with two chairs (one for the phlebotomist and the other for the patient)
 - a hand wash basin with soap, running water and paper towels
 - alcohol hand rub
- Floors should not be carpeted
- The workplace should be clean, tidy and uncluttered. There should be no sign of blood contamination on the chairs, counters or walls. The working surface should be visibly clean

Environmental Cleaning:

- To remove the risk of environmental contamination with pathogens, counter and work surfaces, and chair arms should be cleaned with disinfectant at the start of each shift and when visibly dirty

Equipment (not exhaustive - relating directly to infection prevention):

- Only sterile, single-use blood-sampling devices should be used to take blood
- The use of vacuum extraction tube systems as closed systems for blood collecting reduces the risk of direct exposure to blood and has made it easier to take multiple samples from a single venepuncture
- Non-sterile gloves in multiple sizes should be available
- A clean tray or trolley should be used to lay out equipment
- Gauze or cotton-wool ball for application over the puncture site
- 2% chlorhexidine gluconate in 70% isopropyl alcohol swabs for skin preparation
- Clean tourniquet
- Leak-proof transportation bags and containers
- A puncture-resistant sharps container

Personal Protective Equipment and Hand Hygiene:

- When taking blood, health workers should wear well-fitting, non-sterile gloves, and should also carry out hand hygiene (hand washing or use of an alcohol rub) before and after each patient procedure, before putting on gloves and after removing them

Skin Preparation:

- Health workers should clean the skin with a combination of 2% chlorhexidine gluconate in 70% isopropyl alcohol, covering the whole area and ensuring that the skin area is in contact with the disinfectant for at least 30 seconds; they should then allow the area to dry completely (about 30 seconds)
- DO NOT touch the cleaned site; in particular, DO NOT place a finger over the vein to guide the shaft of the exposed needle. If the site is touched, repeat the disinfection

Tourniquets:

- All items to be used on more than one patient should be designed so that they can be cleaned and disinfected. Such items include tourniquets
- Use a clean elastic tourniquet reprocessed between patients

Sharps Safety:

- All healthcare workers should receive immunization for hepatitis B before assuming duties that include potential exposure to blood and body fluids
- A post-exposure prophylaxis protocol must be available in all phlebotomy areas, providing clear instructions to follow in case of accidental exposure to blood or body fluids
- Closed systems for blood sampling are preferable because they have proven to be safer than open systems
- Best practice is to discard the needle and tube holder, as a single unit, into a puncture resistant sharps container that is clearly visible and within arm's reach
- Dangerous practices which should be avoided include:
 - recapping and disassembling vacuum-containing tubes and holders
 - reusing tourniquets and vacuum-tube holders that may be contaminated with bacteria and blood
 - working alone with confused or disoriented patients who may move unexpectedly

Sharps Safe Devices:

- Consider the use of safety (i.e. engineered) devices such as retractable lancets, needles with needle covers or retractable needles
- Before selecting a safety-engineered device, users should thoroughly investigate available devices to determine their appropriate use, compatibility with existing phlebotomy practices, and efficacy in protecting staff and patients