Venepuncture/Therapeutic Phlebotomy - Potential Risks

Venepuncture or Therapeutic phlebotomy are the names for taking blood in order to diagnose and make a plan to treat an illness or reduce the risk of a complication. (Assi and Baz 2014). Phlebotomy is an extremely safe procedure and the risks outlined below are either extremely rare, minor and self-limiting or both. The main potential risks from phlebotomy are (Newman 2004)

- **Pain and Bruising:**

  Discomfort or pain at the puncture site, as well as bruising, are common and usually mild and temporary.
- **Fainting (Syncope):**

  Some individuals may experience dizziness, light-headedness, or even fainting, particularly during or after the procedure.
- **Hematoma:**

  A collection of blood outside the blood vessel, often resulting in a bruise, can occur if the needle punctures a small blood vessel.
- **Nerve Damage:**

  In rare cases, the needle can injure a nerve, causing pain or numbness.
- **Infection:**

  Although rare, there is a small risk of infection at the puncture site if proper aseptic techniques are not followed.
- **Allergic Reactions:**

  Some individuals may have allergic reactions to the materials used in the procedure, such as the bandage or antiseptic.
- **Infiltration:**
  The leakage of blood into the surrounding tissue can cause swelling and discoloration.

Risks for Health Workers:

- **Needle-Stick Injuries:**

  Accidental puncture with a used needle can expose healthcare workers to bloodborne pathogens.
- **Infection:**

Health workers face the risk of contracting infections like hepatitis B, HIV, or syphilis from accidental exposure to infected blood.

Minimizing Risks:

- **Proper Technique:**

  Following established phlebotomy procedures, including vein selection and needle insertion, is crucial.

- **Sharps Disposal:**

  Immediately and safely disposing of used needles and sharps in designated containers is essential.

- **Patient Education:**

  Informing patients about potential risks and how to minimize them can help reduce anxiety and improve outcomes.

- **Quality Control:**

  Implementing quality assurance measures in phlebotomy practices helps prevent errors and ensures accurate results.

- **Safety Devices:**

  Using safety-engineered devices, such as needle-shielding mechanisms, can help prevent accidental punctures.

- **Communication:**
  Open communication between phlebotomists and patients can help address concerns and manage potential complications.

References

Assi, TB, and E Baz. 2014. "Current applications of therapeutic phlebotomy." Blood transfusion 12 (Supplement 1): s75–s83.

Newman, Bruce H. 2004. "Blood donor complications after whole-blood donation." Current Opinion in Hematology 11 (5): 339-345.

WHO 2010 'WHO Best Practice for injections and Related Procedures Toolkit' National Library of Medicine [accessed 18-7-25]