***Common Gauges of Needles Used for Venipuncture***

For example, a 22g needle is thinner than a 21g. This difference is critical to remember, as there is no uniform gauge size for all phlebotomist patients. Each needle varies in their blood flow rate and compatibility with specific vein types.

Although 21, 22, and 23 gauge needles are three of the most common needles, a broad knowledge of all needle types is beneficial to accommodate the different sizes of veins and tissues the phlebotomist may come across.

* 18 Gauge Needles

18g needles are not used for routine blood draws. A needle this large is used for donating more substantial quantities of blood that require a faster blood flow rate, such as blood donor units and therapeutic phlebotomy. The 18g needle comes attached to the collection bag and does not require additional assembly.

* 21 Gauge Needles

21g needles are the most common gauge of needles used for routine blood draws and[venipuncture](https://phlebotomyu.com/what-does-venipuncture-mean/). The gauge is small enough in which it does not cause any significant pain or discomfort during use. For most patients, their veins are of a size and stability that is best suited for the 21g needle. In some circumstances, however, it may be required to use a smaller size needle than 21g.

The 21g needle does not force blood through a narrow needle bore, which prevents the rupture of the blood components that need to be analyzed and ensures specimen integrity. The 21g needle allows blood to flow at a steady rate, which accelerates collection time and is traditionally color-coded with a green covering.

* 22 Gauge Needles

Depending on the facility, 22g needles are occasionally utilized for routine blood draws. The slightly smaller size may assist the phlebotomist with slightly smaller veins they may encounter on older children or adult patients. This needle can be assembled with the more common multi-sample needle ETS system and tends to have a black color code covering.

* 23 Gauge Needles

23g needles, also known as butterflies, are used when a person’s vein is much narrower than average. It is light blue color coded. Despite the phlebotomist’s efforts to[anchor the vein](https://phlebotomyu.com/how-to-anchor-the-vein/), the patient may be unwell or have minimal sites to choose a vein from, requiring a smaller needle.

Small children and infants are the most common patients to be drawn on using a 23g needle also as their veins are naturally much thinner than those of an adult. Some adult veins, however, do require the use of a butterfly.

23g needles are part of a winged infusion system (butterfly), not the multi-sample needle ETS system. Needles smaller than a 23g might hemolyze the red blood cells, and the sample could not be processed for testing. For instance, a 25g needle is better suited for intramuscular injections than blood draws.

Phlebotomists generally use 21-gauge needles for routine blood draws in adults. However, 22-gauge needles can be used for veins in older children or adults, and 23-gauge [winged or butterfly needles](https://www.google.com/search?sca_esv=806b124b1fa22633&rlz=1C1RXQR_enUS1160US1160&q=winged+or+butterfly+needles&sa=X&ved=2ahUKEwjS9byp37eNAxWj78kDHSPgMCAQxccNegUInAEQAQ) (blue-colored) are used for thinner veins. 16- or 17-gauge needles are often used for blood donation.

Here's a more detailed breakdown:

* **21-gauge:** Commonly used for routine blood draws in adults.
* **22-gauge:** Can be used for veins in older children or adults.
* **23-gauge:** Winged or butterfly needles, used for thinner veins, particularly in children.
* **16-17 gauge:** Used for blood donation due to the larger lumen, allowing for more blood to be collected quickly and potentially reducing harm to red blood cells.
* The Straight Needle The design of the straight needle and collection system is ideal when multiple samples are required, as many tubes can be attached to and removed from a single needle. Straight needles are commonly available in 21 and 22 gauge. The generally accepted benefits of straight needles include needle stick reductions, quality venous samples, and cost savings.
* The Butterfly Needle The design of the winged-infusion blood collection needle is ideal for those with small or fragile veins (eg, hands and feet), including neonatal/pediatric, geriatric, oncology, and burn patients. For these cases, the very finely bored 25-gauge needle is the preferred method. Of note, it is best to avoid straight needles with patients who experience uncontrolled movements, such as tremors or seizing, due to the increased risk of nerve damage.

