

**Use a  
20-22 gauge needle  
for routine collection.**

Too small a needle results in excess force, while too large a needle can cause stress on the cell walls. Avoid using narrow gauge 'butterfly' needles where possible.

**Do not leave the  
tourniquet on for longer  
than three minutes.**

The longer the tourniquet remains on the arm, the higher the incidence of haemolysis.

Alcohol damages cells:  
**Allow the venipuncture  
site to completely air dry**  
after cleaning it with alcohol.

**Place the needle  
correctly in the vein.**

If the bevel of the needle is crowded by the inner wall of the vein, this exerts force on the cells. This is typically indicated by too slow a blood flow.

# Top Tips for Avoiding Haemolysis

**Warm up the puncture site**

Warming increases blood flow and prevents the need to "milk" the site.

**When using a syringe,  
pull the plunger gently.**

Pulling too quickly exerts excess pressure and will rupture the cell walls.

**Avoid transferring  
blood between tubes  
whenever possible.**

If you must, don't push hard on the syringe plunger, as this causes excess pressure, and can also cause loss of the sample if the stopper comes off.

**Fill tubes to  
the correct volume**

Under-filling tubes containing anticoagulant results in a higher than recommended concentration of the additive, which promotes haemolysis.

Use a smaller tube for difficult draws

And after collection:

- **Be Gentle!** – Gently invert sample five times
- **Allow serum samples to stand for 30 minutes** in a vertical position for clot to form
- Note that **transport of samples via the pneumatic tube system** (in the hospital) shakes the sample and can break up cells