The Shrewsbury and Telford Hospital NHS
NHS Trust

Improving sample quality in the clinical setting

The Big SIX

1. Personal Identification

Of all issues this is the one with the most potential for significant adverse outcome. Risk can be greatly reduced by adhering to the recommended process:

- ALWAYS – print off the request form and take it to the patient's side
- ALWAYS -POSITIVELY ID THE PATIENT. ASK the patient for their name, date of birth, and address. Check this matches the request form before taking blood
- ALWAYS - label the samples before leaving the patient.
- ALWAYS make sure that your writing is legible
- NHS No is key in producing unique, continuous and consistent identification across hospital and primary care health systems. For transfusion samples the Hospital or NHS number must be written on the form and sample

NOT POSSIBLE?- find ways to reduce risk– the biggest risk is from bleeding a patient and then printing out the wrong form or using the wrong form later on. DON'T rely on someone else to print out the correct request form later on and NEVER rely on memory.

2. Responsible clinician and location for report

Always think about who is responsible for receiving and acting on the report. Make sure that this person is indicated on the request form and the location for the report is clear. Stickers are frequently used but are sometimes incorrect. This is a frequent cause of delay and error in many clinical areas and is a ***significant risk to patient safety.***

3. Incorrect order of draw

See overleaf. Cross contamination of blood with preservatives from different blood tubes is a significant problem and can lead to incorrect results and inappropriate diagnosis and treatment. The most common reason is filling tubes in the wrong order and handy stickers are now available to remind you of the fill-order. There should be some accompanying this sheet. For more supplies please contact the RSH laboratory on 01743 261158.

4. Inadequate mixing

Some of the additives and preservatives can be difficult to dissolve- particularly the purple tube. Inadequate mixing of purple tubes can allow microclots and platelet clumps to form that are difficult to detect and make haematology results unreliable. Gently invert all the filled tubes 6-8 times allowing the air bubble to move to either end of the tube.

5. Trauma to the specimen

There are lots of ways to do this the most common being:

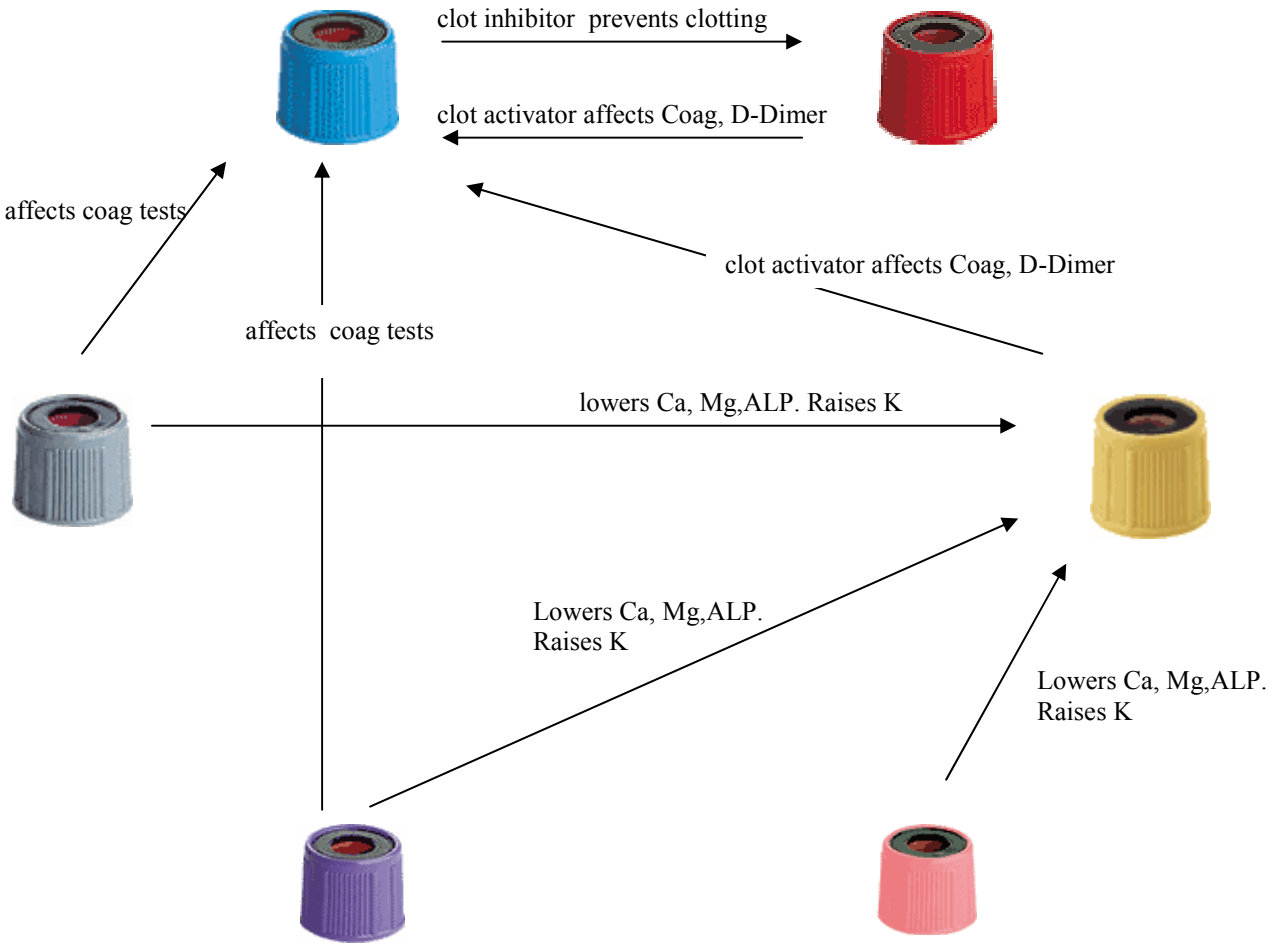
- mixing the specimens by shaking
- using excessive negative or positive pressure to draw blood through needles . This may be due to manually applied pressure or through the use of small needles on large syringes.

6. Centrifugation

Gold cap tubes contain a gel which, after centrifugation, forms a barrier and prevents the contents of the cells from leaking into the serum sample e.g. potassium & phosphate. In order for a proper barrier to form all gold cap tubes should be mixed and left for 20-30 minutes to clot before centrifuging. They should be spun at 3500g for 10 minutes (see handbook for more information). If your centrifuge has a fixed angle rotor, the spin time should be extended to 15 minutes. Gold cap samples spun by 90 minutes can be used for glucose testing.

Filling the tubes in the right order– it's important !

Blood tubes contain a variety of preservatives, pro- or anti-coagulants sprayed onto their internal surface. When filling using any method, cross-contamination can occur between tubes. This may have significant effects on test results.



All very well but how do I remember all this?

-Vacuette selection charts: tube types are listed in the order of draw- these are available for users and on the Pathology website.
__Stickers__ Now available to put on notebooks –contact Biochemistry at RSH 01743 261158 for supplies.

NOTE that for electronic requesting, tube labels are NoT printed in the order of draw