

# POINT OF CARE TESTING:

Things that every user needs to know

Hb

iSTAT and most ABG machines give a calculated Hb. This is influenced by Na<sup>+</sup>, Hct & the WCC. If possible, confirm results before acting on it!

iSTAT measures creatinine using an ENZYMATIC method. These have better performance at low levels, especially with older patients, and are less susceptible to interference.

Ca<sup>2+</sup>

Creat

On iSTATs, sodium is measured by the DIRECT Ion Sensitive Electrode (ISE) method. Some ABG machines also do this: does yours?

Na<sup>+</sup>

Always adjust Na<sup>+</sup> results in severe hyperglycaemia

Labs usually use the JAFFE method to measure creatinine. Reference ranges differ between manufacturers (and very high bilirubin can interfere with this method)

Main labs usually use an INDIRECT ISE method. This is affected by severe hyperlipidaemia, or very high proteins (e.g. in myeloma)

## POCT CAVEATS

- 1) Don't look at the results before looking at the patient.
- 2) Be mindful that results in minutes rather than hours strips you of pondering-the-case time!
- 3) You are the safety net - a "normal creat" may still be AKI in an older patient and there'll be no lab alert.
- 4) Beware blanket sampling: there may be results you don't want to know!

! Always correlate POCT with the patient before you. Beware dodgy cartridges, machine faults, and user error. You must know what symbols are used for "out of range" vs. "error"!

**TRACKING RESULTS?**  
**DON'T MIX & MATCH**  
You don't want to compare apples with pears! Use formal laboratory or POCT and stick with it.

**e.g. LACTATE:**  
Do you know whether the research you're basing your Rx on was from arterial vs. venous vs. ear lobe samples, and on whole blood or plasma?

**PLASMA or SERUM?**  
Serum needs time to clot, so POCT uses Plasma/Whole Blood. But beware: you won't get a warning if POCT samples are haemolysed

**METHOD & REFERENCE RANGES**  
POCT assays often use a different method to the lab: you need to know what this means when looking at results!

**FORMAL LAB SAMPLES**  
aren't always gold standard (e.g. K<sup>+</sup> will be falsely elevated if delays of over 4 hours to the lab, or if the sample gets cold)