Cardiac ICU lab testing guidelines.

These are baseline guidelines, and where clinically appropriate, additional test and assessments may be necessary.
The Nova gas machine gives us a larger range of blood tets than previous machines, and allows 'point of care' testing to take place, saving time, and blood samples.

The standard profile on the nova blood gas machine includes pH, CO2, O2, bicarb, BE, lactate, glucose, Mg, Ca, Cl, Na, K, Urea and creatinine, Hb.

With the exception of the variables below, the numbers correlate well with laboratory values:

Mg – ionised values on the blood gas machine. Treat if values below 0.5mmol/l.

Urea and creatinine – tend to overread (so reports values higher than lab), particularly when the sensor gets a bit old. Use the values as a trend, and check a lab value if concerns about renal function.

As with all test results, if the values seem to be at odds with clinical status, recheck (whether lab of blood gas machine result).

Post op admission

	Nova ABG	FBC	U+E	Mg, Ca, phos	CLOTTING	LFT	CXR	ECG
post op cardiac	y	y	n	n	n	n	y	y
post op cardiac < 6months	y	y	y	n	y	n	y	y
post op redo	y	y	n	n	y	n	y	y
post op transplant	y	y	y	y	y	y	y	y

Comment [GOSH1]: Risk of low cardiac output, useful baseline for renal function.

Post op day 1

	Nova ABG	FBC	U+E	Mg, Ca, phos	CLOTTING	LFT
post op recovery stable	y	n	n	n	n	n
post op recovery unstable	y	y	y	y		
post op recovery <6 months	y	y	y	n		
post op transplant recovery	y	y	y	y	n	n

Post op day 2 and beyond

Each patient should have individual assessments. An ABG sample should give most of the relevant information for stable patients, and no routine laboratory testing should need to take place in stable / recovering patients.

Weaning patients

Respiratory wean only
These patients should not need regular blood gas assessments- clinical , including end tidal CO2 should be sufficient. Ideally should run just one ABG per shift to correlate to ET CO2.

Unstable/ low cardiac output patients
These will need more close assessments – 4-6 hourly ABG, including venous blood gas.

Electrolyte replacement
Repeat blood sample on gas machine 1 hour after replacement of electrolytes.

Renal replacement therapy
6 hourly ABG to look at electrolytes and urea, creatinine.

TPN
A daily blood gas sample should give relevant electrolytes. Weekly set of surveillance bloods – FBC, U&E, LFT and trace elements.