

MEMORANDUM # 60

TO: UNC Hospitals Attending Physicians, Housestaff, Department Heads, Nursing Staff and Supervisors

FROM: David G. Grenache, Ph.D., Director, Blood Gas Laboratory
John F. Chapman, Dr.PH, Director, Core Laboratory
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SUBJECT: Updates to blood gas reference ranges

DATE: July 24, 2006

All blood gas and oximetry results are currently reported with reference ranges suitable for arterial blood regardless of the specimen type. To help improve the interpretation of blood gas tests, the Core lab will begin reporting results with specimen-specific reference ranges beginning on August 4, 2006. The table below shows the different reference ranges that will be reported according to specimen type.

This improvement will result in changes to how blood gas tests are ordered in SMS and CPOE. Beginning on August 4 (for SMS) and August 6 (for CPOE), blood gas tests, whether individual or grouped in convenience sets, will now need to be selected with regard to the specimen source (arterial or venous).

Test	Arterial	Venous
pH	7.35-7.45	7.32-7.42
PCO2 (mm Hg)	35-45	40-60
PO2 (mm Hg)	80-110	30-55
Bicarbonate (mmol/L)	22-27	22-27
Base excess (mmol/L)	±2	±2
Oxygen saturation (%)	94-100	40-85
Oxyhemoglobin (%)	94-100	40-85
Carboxyhemoglobin (%)	0-1.2	0-1.2
Methemoglobin (%)	0-1.5	0-1.5

Please contact the Core Laboratory Supervisor (966-2361) or Dr. Grenache (966-3726) for questions concerning these changes.