

Date: May 31, 2011

To: South Zone, Calgary Rural, Central Zone and North Zone (excluding Northern Lights)
Physicians, Nursing, Respiratory Therapists, Laboratory Directors and Managers

From: **AHS Laboratory Services**
Dr. James C. Wesenberg, Medical/Scientific Director, Laboratory Services – Regional Centres and Rural

Re: **Standardization of Reference Ranges & Critical Values - pH, Blood Gases, Co-Oximetry Reporting of Venous pH and Blood Gases**

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Standardization of Reference Ranges & Critical Values - pH, Blood Gases, Co-Oximetry

Key Message:

Effective **June 1, 2011**, the reference ranges and critical values for pH, Blood Gases and Co-Oximetry will be standardized throughout the regional and rural zones of Alberta.

Background:

Standardized values have been assigned for arterial, venous, capillary, cord arterial and cord venous specimens. Generally changes, if any, are minor relative to previous local values. This standardization represents a collaborative effort between Laboratory and Respiratory and was done in consultation with physicians. A copy of the standardized reference ranges is available on request from your local Laboratory or Respiratory department.

Reporting of Venous pH and Blood Gases

Key Message:

- Venous blood gas samples collected in ***lithium heparin vacutainer tubes*** do not provide reliable pO₂ and Oxygen Saturation (sO₂) measurements and will therefore be excluded from the laboratory report.
- Venous blood gas samples collected using the ***Radiometer safePICO (Self-fill or Aspirator)*** system is the recommended method to collect these samples and will not compromise the results for pO₂ and sO₂. The laboratory report will include the results for these two parameters.

Background:

The demand for venous pH and Blood Gas testing has increased over the last year or two. Please be advised that testing is available with the following caveats.

- When performed by the Laboratory, the venous specimen is collected into a lithium heparin vacutainer. However the vacutainer does not allow for accurate results for pO₂ and Oxygen Saturation (sO₂). The report will therefore not include the results for these two parameters. This limitation will be of little consequence as pO₂ and sO₂ are not generally the focus of attention when venous pH and Blood Gases are ordered.
- When performed by non-Lab personnel (Respiratory, Physicians, Nursing), the venous specimen is collected using the appropriate Radiometer safePICO (Self-fill or Aspirator) blood gas collection system. These collection systems do not compromise the results for pO₂ and sO₂. The report will therefore include the results for these two parameters.

For additional questions contact:

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This bulletin has been reviewed and approved by:

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