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ST VINCENT'S PATHOLOGY

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AUSTRALIAN COMMON REFERENCE INTERVALS INFORMATION SHEET

INTRODUCTION

Reference intervals or reference limits (sometimes referred to as normal ranges) are provided with nearly all numerical pathology results to assist with test interpretation. In most cases the interval is based on a healthy population with the aim of including about the middle 95% of that population. Thus, it is expected that a small number of healthy subjects will have results just outside these intervals. It is the responsibility of individual laboratories to develop or validate reference intervals for their tests. Variations in in how this has been done has led some differences in the intervals from different laboratories. This has occurred even though the test results may be the same from the laboratories.

Against this background the Australasian Association of Clinical Biochemists (AACB) with the support of the Royal College of Pathologists of Australasia (RCPA) has started the process of producing common reference intervals for use by all laboratories in Australia.

PROCESS

When considering common reference intervals, the issues to be considered are as follows:
1. Are the test results from different laboratories close enough to each other.
2. Are the populations served by different laboratories similar.
3. What is the best reference interval that can be determined for use.

Over a series of meetings, scientists and pathologists from the AACB and RCPA assessed the evidence for these issues and are recommending common intervals where possible.

RECOMMENDATIONS

A number of common reference intervals for frequently requested tests have been endorsed by the RCPA and the AACB and have been published, together with the evidence to support their use (Tate JA, Sikaris KA, Jones GRD et al Clin Biochem Rev 2014). These recommendations are for adult and paediatric intervals for the following serum tests: Sodium, Potassium, Chloride, Bicarbonate, Creatinine, Calcium, Phosphate, Magnesium, LDH, Alkaline phosphatase, Total Protein. Many current SydPath reference limits are either equal, or very close to the recommended limits and so changes will have minor effects on individual patients. We are reviewing the effect of implementing the different limits into routine use. The use of common reference intervals allows a detailed review of the intervals in place and should reduce confusion and uncertainty when responding to reports from different laboratories.