## Calculations

UniCel DxC Systems perform all calculations internally to produce the final reported result. The system will calculate the final result for sample dilutions made by the operator when the dilution factor is entered into the system during sample programming.

For dilutions programmed in Remisol: the final calculated result from a dilution will not be calculated by the UniCel DxC system but by Remisol.

24 hr timed urine specimens are calculated from the following equation:

$$\text{Urine Protein } \frac{\text{mg}}{\text{dL}} \text{ X } \frac{\text{dL}}{\text{100mL}} \text{ X Total volume collected (mL) = mg/24hr}$$

Calculations are only performed on 24 hour collections (±15 minutes) and reported as mg/24hr.

Do not round off total collection time.

Total Protein/Creatinine Ratio on spot urines:

$$\frac{\textbf{urine total protein, mg/dL}}{\textbf{urine creatinine, mg/dL}} \text{ X } \frac{\textbf{1000 mg}}{\textbf{g}} = \textbf{mg protein/g creatinine}$$

The following comment will be appended to each calculated ratio:

> Reference intervals are not available for the urine protein/creatinine ratio. For adults, a urine protein/creatinine ratio of > 160 mg/g suggests increased proteinuria. A ratio of > 3000 mg/g suggests nephrotic range proteinuria. In children, a ratio of > 100 mg/g is suggestive for proteinuria and > 1000 mg/g for nephrotic range proteinuria. Results can vary due sex and body size and a single cutoff may not be appropriate for pediatric age groups. (15,16)

## Reporting Results

Equivalency between the SYNCHRON LX and UniCel DxC 800 Systems has been established. Chemistry results between these systems are in agreement and data from representative systems may be shown.

### Reference Intervals

The following reference intervals were taken from literature and a study performed on SYNCHRON Systems.(8)

Reference Intervals

| Intervals | Sample Type | Conventional Units |
|---|---|---|
| Literature | CSF | 15 – 45 mg/dL |
| | Urine (random) | < 10 mg/dL |
| | Urine (24 hour) | 50 – 100 mg/24 hrs |
| | Urine (average) | 1 – 14 mg/dL |
| UCDMC | CSF | 15 – 45 mg/dL |
| | Urine (timed) | < 150 mg/24hrs* |

* Reference interval determined via a consensus survey at UCDMC.

Reference interval for a spot or random urine sample has not been established.

A reference interval for fluids has not been determined by UCDHS. This result may be less accurate than for the usual sample type, and should be interpreted in the context of the patient's clinical condition.