

## Core Biochemistry Reference Intervals

### Blood Gases

This document is valid as of the date of issue and will be updated as required by Canterbury Health Laboratories (CHL). Outside of Canterbury Health Laboratories, this document should be used with caution.

Please contact CHL should you require an updated version. Amendments table provided at the end of the document.

### Whole Blood

| Test Name                        | Additional Information    | Reference Intervals |       | Units  | Revision Date |
|----------------------------------|---------------------------|---------------------|-------|--------|---------------|
|                                  |                           | Lower               | Upper |        |               |
| pH                               | Arterial                  | 7.35                | 7.45  | Units  | Jan-20        |
|                                  | Venous                    | 7.3                 | 7.4   |        |               |
| pCO2                             | Arterial                  | 35                  | 45    | mmHg   | Jan-20        |
|                                  | Venous                    | 40                  | 50    |        |               |
| pO2                              | Arterial                  | 75                  | 105   | mmHg   | Jan-20        |
| p50                              | Venous                    | 22                  | 27    | mmHg   | Jan-20        |
| HCO3                             | Arterial                  | 22                  | 28    | mmol/L | Jan-20        |
|                                  | Venous                    | 22                  | 32    |        |               |
| Base Excess                      | Arterial                  | ± 3                 |       | mmol/L | Jan-20        |
|                                  | Venous                    | ± 3                 |       |        |               |
| Total CO2                        | Arterial                  | 24                  | 30    | mmol/L | Jan-20        |
|                                  | Venous                    | 25                  | 33    |        |               |
| O2 Saturation                    | Arterial                  | > 97                |       | %      | Jan-20        |
| Lactate                          | Arterial                  | < 2                 |       | mmol/L | Jan-20        |
|                                  | Venous                    | < 2                 |       |        |               |
| Ionised Calcium                  | Arterial                  | 1.15                | 1.3   | mmol/L | Jan-20        |
|                                  | Venous                    | 1.15                | 1.3   |        |               |
| Ionised Calcium pH corrected 7.4 | Arterial                  | 1.13                | 1.26  | mmol/L | May-10        |
|                                  | Venous                    | 1.13                | 1.26  |        |               |
| tHb                              | Refer to Core Haematology |                     |       |        |               |
| Oxy Hb                           | Arterial                  | 94                  | 97    | %      | May-10        |
| Carboxy Hb (non-smoker)          | Arterial                  | 0                   | 1.5   | %      | May-10        |
|                                  | Venous                    | 0                   | 1.5   |        |               |
| Carboxy Hb (smoker)              | Arterial                  | 0                   | 1.5   | %      | May-10        |
|                                  | Venous                    |                     | < 9   |        |               |
| Met Hb                           | Arterial                  | 0                   | 1.5   | %      | May-10        |
|                                  | Venous                    | 0                   | 1.5   |        |               |
| DeOxy Hb                         | Arterial                  | 0                   | 5     | %      | May-10        |

### Cord Blood

| Test Name        | Additional Information | Reference Intervals |       | Units  | Revision Date |
|------------------|------------------------|---------------------|-------|--------|---------------|
|                  |                        | Lower               | Upper |        |               |
| pH               | Cord Arterial          | 7.1                 | 7.4   | Units  | Jan-20        |
|                  | Cord Venous            | 7.22                | 7.44  |        |               |
| pCO <sub>2</sub> | Cord Arterial          | 42                  | 74    | mmHg   | Jan-20        |
|                  | Cord Venous            | 28                  | 53    |        |               |
| pO <sub>2</sub>  | Cord Arterial          | 6                   | 28    | mmHg   | Jan-20        |
|                  | Cord Venous            | 16                  | 40    |        |               |
| HCO <sub>3</sub> | Cord Arterial          | 18                  | 28    | mmol/L | Jan-20        |
|                  | Cord Venous            | 17                  | 26    |        |               |

| Test Name   | Additional Information | Reference Intervals |       | Units  | Revision Date |
|-------------|------------------------|---------------------|-------|--------|---------------|
|             |                        | Lower               | Upper |        |               |
| Base Excess | Cord Arterial          | - 12                | 2     | mmol/L | Jan-20        |
|             | Cord Venous            | - 12                | 2     |        |               |
| Lactate     | Cord Arterial          | < 6.1               |       | mmol/L | Jan-20        |
|             | Cord Venous            | < 6.1               |       |        |               |

### Amendments

| Issue number | Date reviewed | Summary of Change        |
|--------------|---------------|--------------------------|
| 3            | 31/07/25      | No change from previous. |
|              |               |                          |
|              |               |                          |
|              |               |                          |
|              |               |                          |
|              |               |                          |

### Accepted by

| Position  | Section Head | Clinical Director |
|-----------|--------------|-------------------|
| Name      |              |                   |
| Signature |              |                   |
| Date      |              |                   |