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| Document Code:  | HAE.N019 | Date of Issue: | 27/10/23 |
| Version Number: | 9.1      | Copy Number:   | XX       |

## Birmingham & Solihull Pathology Services

### Haematology Department

## Reference Ranges for Neonates and Paediatrics

### Full Blood Count

Courtesy of Great Ormond Street Hospital London

#### WBC (x10<sup>9</sup>/l)

|             |             |
|-------------|-------------|
| 0 – 7 days  | 10.0 – 26.0 |
| 8 days – 1Y | 6.0 – 18.0  |
| 1Y – 8Y     | 5.0 – 15.0  |
| 8Y – 13Y    | 4.5 – 13.5  |
| 13Y – 19Y   | 4.0 – 11.0  |

#### RBC (x10<sup>12</sup>/l)

|             |                                      |
|-------------|--------------------------------------|
| 0 – 2days   | 3.9 – 5.3                            |
| 2d – 4d     | 4.0 – 6.6                            |
| 4d – 8d     | 3.9 – 6.3                            |
| 8d – 3weeks | 3.6 – 6.2                            |
| 3w – 5w     | 3.0 – 5.4                            |
| 5w – 9w     | 2.7 – 4.9                            |
| 9w – 14w    | 3.1 – 4.5                            |
| 14w – 3Y    | 3.7 – 5.3                            |
| 3y – 7Y     | 3.9 – 5.3                            |
| 7Y – 13Y    | 4.0 – 5.2                            |
| 13Y – 19Y   | Male 4.5 – 5.3      Female 4.1 – 5.1 |

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## Reference Ranges for Neonates and Paediatrics

### Full Blood Count

Courtesy of Great Ormond Street Hospital London

#### Hb (g/l)

|              |                                      |
|--------------|--------------------------------------|
| 0 – 2 days   | 135 – 195                            |
| 2d – 4d      | 145 – 225                            |
| 4d – 8d      | 135 – 215                            |
| 8d – 3 weeks | 125 – 205                            |
| 3w – 5w      | 100 – 180                            |
| 5w – 9w      | 90 – 140                             |
| 9w – 2 years | 100 – 135                            |
| 2Y – 3Y      | 105 – 135                            |
| 3Y – 7Y      | 115 – 145                            |
| 7Y – 13Y     | 115 – 155                            |
| 13Y – 19Y    | Male 130 – 160      Female 120 – 160 |

#### HCT

|               |                                          |
|---------------|------------------------------------------|
| 0 – 1 day     | 0.42 – 0.60                              |
| 1d – 4d       | 0.45 – 0.67                              |
| 4d – 8d       | 0.42 – 0.66                              |
| 8d – 3weeks   | 0.39 – 0.63                              |
| 3w – 5w       | 0.31 – 0.55                              |
| 5w – 7w       | 0.34 – 0.40                              |
| 7w – 9w       | 0.28 – 0.42                              |
| 9w – 14w      | 0.29 – 0.41                              |
| 14w – 3 years | 0.33 – 0.39                              |
| 3Y – 13Y      | 0.35 – 0.45                              |
| 13Y – 19Y     | Male 0.37 – 0.49      Female 0.36 – 0.46 |

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## Reference Ranges for Neonates and Paediatrics

### Full Blood Count

Courtesy of Great Ormond Street Hospital London

#### MCV (fl)

#### MCH (pg)

|               |          |               |         |
|---------------|----------|---------------|---------|
| 0 – 2 days    | 98 – 118 | 0 – 4 days    | 31 - 37 |
| 2d – 4d       | 95 – 121 | 4d – 5 weeks  | 28 - 40 |
| 4d – 8d       | 88 – 126 | 5w – 9w       | 26 - 34 |
| 8d – 3 weeks  | 86 – 124 | 9w – 14w      | 25 - 35 |
| 3w – 5w       | 85 – 123 | 14w – 3 years | 23 - 31 |
| 5w – 9w       | 77 – 115 | 3Y – 7Y       | 24 - 30 |
| 9w – 14w      | 74 – 118 | 7Y – 13Y      | 25 - 33 |
| 14w – 3 years | 70 – 86  | 13Y – 19Y     | 25 - 35 |
| 3Y – 7Y       | 75 – 87  |               |         |
| 7Y – 13Y      | 77 – 94  |               |         |
| 13Y – 19Y     | 78 – 98  |               |         |

#### WBC Differential (10<sup>9</sup>/l)

|             | Neuts     | Lymphs     | Monos     | Eos         | Baso       |
|-------------|-----------|------------|-----------|-------------|------------|
| 0 – 2 years | 1.0 – 8.5 | 3.0 – 13.5 | 0.3 – 1.5 | 0.1 – 0.3   | 0 – 0.2    |
| 2Y – 6Y     | 1.5 – 8.5 | 2.0 – 9.5  | 0.3 – 1.5 | 0.3 – 0.8   | 0 – 0.2    |
| 6Y – 12Y    | 1.5 – 8.0 | 1.5 – 7.0  | 0.1 – 0.8 | 0.1 – 0.8   | 0 – 0.2    |
| 12Y – 16Y   | 1.8 – 8.0 | 1.5 – 5.2  | 0.1 – 0.8 | 0.1 – 0.8   | 0 – 0.2    |
| 16Y – 19Y   | 2.5 – 7.5 | 1.5 – 4.0  | 0.2 – 0.8 | 0.04 – 0.44 | 0.02 – 0.1 |

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## Reference Ranges for Neonates and Paediatrics

### Clotting Screen

|                                                     | 15 Days–4 Weeks     | 1–5 Months          | 6–11 Months         | 1–5 Years           | 6–10 Years          | 11–17 Years         |
|-----------------------------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| <b>Prothrombin Time (PT)</b>                        | 9.5-12.6<br>(11.2)  | 9.7-12.8<br>(11.0)  | 9.8-13.0<br>(11.8)  | 9.9-13.4<br>(11.3)  | 10-14.6<br>(11.7)   | 10.0-14.1<br>(11.8) |
| <b>Activated Partial Thromboplastin Time (APTT)</b> | 27.6-45.6<br>(35.4) | 24.8-40.7<br>(33.5) | 25.1-40.7<br>(32.4) | 24.0-39.2<br>(31.6) | 26.9-38.7<br>(31.6) | 24.6-38.4<br>(31.0) |
| <b>Fibrinogen C (Clauss)</b>                        | 1.3-3.0<br>(2.4)    | 1.4 – 4.3<br>(2.1)  | 1.48-3.67<br>(2.3)  | 1.64-4.97<br>(2.6)  | 1.71-5.37<br>(2.76) | 1.68-5.29<br>(2.48) |

Courtesy of Werfen – Optimizing Paediatric Haemostasis Testing 2017, based on ACL TOP Hemostasis Testing Systems