

# Haematology full blood count reference range changes from 5 October

## What is happening and when?

This briefing document is to provide service users with information about the new analytical instruments being installed in Guy's and St Thomas' hospitals to perform full blood counts. The change in analysers is relevant to colleagues working at both hospitals, local GP practices (mostly those in Lambeth and Southwark boroughs), and a small number of NHS organisations from outside south east London which refer samples for specialist testing services.

The service will swap to the new analysers on 5 October 2023 alongside the introduction of Epic, the new Electronic Health Record (EHR). While the project has been carefully planned to cause minimal disruption, there are some minor planned delays during the swap out. Synnovis colleagues are working closely with speciality clinical leads to ensure that clinicians are aware and that plans are made for ongoing patient management where appropriate.

## Will there be any disruption to services?

Due to the movement of haematology analysers at Guy's hospital following implementation on 5th October 2023, samples for full blood counts may take up to 30 to 60 minutes longer to be processed from 5th October to 18th October. There will be a disruption to the service overnight on 4 October which we anticipate will be up to 5 hours, resulting in a delay in issuing results of up to 1 hour. The laboratory team will prioritise all urgent samples during this period. Following this planned disruption, the service will return to business as usual although there may be some disruption to the service while the new instruments are fully embedded. We will continue to communicate with colleagues throughout the transition.

## How have the new reference ranges been generated?

The new paediatric full blood count reference ranges (<12 years old), including the age groups have been extracted from Dacie and Lewis Practical Haematology (12th edition) By B. J. Bain, I. Bates and M. A. Laffan, Elsevier, London, 2017.

The adult reference ranges (>12 Years old), were obtained by testing more than five hundred GP patient samples in the new haematology analysers. Samples were collected in the phlebotomy department at St Thomas' Hospital and tested within 2 hours from collection. The aim was to assess a "near normal" population using specific criteria based on the patient's clinical details. The new reference ranges have also embedded the feedback from the Haematology Clinical Leads from GSTT, KCH and PRUH and reflect the clinical requirements for adequate patient management.

## What do I need to do?

Clinicians at Guy's and St Thomas' Hospitals should be aware of the reference range changes and new parameters available from 5 October. A full list of new haematology reference ranges can be found on our website [here](#).

Yellow top K<sub>3</sub>EDTA tubes or large (wide) EDTA tubes will no longer be compatible with the new analytical instruments. If you are using these types of tube, please run down your existing supply and

switch to using a compatible tube type. From October 5, any remaining incompatible tubes must be thrown away. Compatible tube types can be found on page four.









## Further Support

You can find more information including frequently asked questions on our website here: <https://www.synnovis.co.uk/transformation/gstt>. If you have any general queries about this programme or can't find the information you need, please email [LetsTalk@synnovis.co.uk](mailto:LetsTalk@synnovis.co.uk).

All clinical queries about testing services or results should always be referred to the dedicated Synnovis Customer Services Team at [customerservices@synnovis.co.uk](mailto:customerservices@synnovis.co.uk) or 0204 513 7300.

## Table of changes

	Current GSTT	Changes GSTT
<b>Haemoglobin (Adult Male)</b>	130 - 170 g/L	125 – 170 g/L
<b>Haemoglobin (Adult Female)</b>	120 – 150 g/L	115 – 148 g/L
<b>Lymphocyte counts (Adults Male &amp; Female)</b>	1.2 - 3.5 x 10 <sup>9</sup> /L	0.80 - 3.50 x 10 <sup>9</sup>
<b>White Blood Cell (WBC)</b>		White Blood Cell (WBC) differential count reported with 2 decimal places
<b>Eosinophil count high resolution test</b>		Eosinophil count high resolution test will not be available any more as the FBC will report the Eosinophil count with 2 decimal places.
<b>Neutrophil Counts</b>		Neutrophil counts below 1.5x 10 <sup>9</sup> /L will trigger the following message: <i>Normal neutrophil counts in healthy people with family origins from Africa may be lower than 1.5 x 10<sup>9</sup> /L.</i>  This will act as a reminder for the ethnic differences of Neutrophil counts.
<b>Paediatric reference range changes</b>		With enhanced age group stratification, this will allow more comprehensive and adequate reference ranges for patients under 12 years old.
<b>Age group parameters</b>	<ul style="list-style-type: none"> <li>• 1 Day</li> <li>• 3 Months</li> <li>• 6 Months</li> <li>• 1 Year</li> <li>• 6 Years</li> <li>• 13 Years</li> </ul> <p>&gt;13 years *For some FBC parameters, the age groups differ slightly.</p>	<ul style="list-style-type: none"> <li>• Birth (0 days)</li> <li>• Day 3</li> <li>• Day 7</li> <li>• Day 14</li> <li>• 1 Month</li> <li>• 2 Months</li> <li>• 3 – 6 Months</li> <li>• 1 Year</li> <li>• 2 – 6 Years</li> <li>• 6 – 12 Years</li> <li>• &gt;12 Years</li> </ul>
<b>Other new parameters</b>		<ul style="list-style-type: none"> <li>• MCHC (Mean Corpuscular haemoglobin concentration)</li> <li>• PDW (Platelet distribution width)</li> </ul>
<b>Changes to compatible sample tubes</b>		Yellow top K <sub>3</sub> EDTA tubes and Large (wide) EDTA tubes will no longer be accepted and should not be used beyond 4 October. Compatible tube types are on page three.
<b>Location of sample analysis</b>	Priority samples processed at the Guy's laboratory and other samples processed at St Thomas'.	All samples taken at Guy's Hospital will be processed at Guy's laboratory. Clinicians at Guy's will see improved turnaround times after the new analysers are embedded.

Type of tube	Characteristics
 	Dimensions 7x18mm  Fill volume: 1.3mL
 	Dimensions 15.35x46mm  Fill volume: 0.5mL
 	Dimensions 13x75mm  Fill volume: 2mL
 	Dimensions 13x75mm  Fill volume: 3.5mL  Blue top only for platelet count – citrate
 	Large tubes & yellow top K <sub>3</sub> EDTA tubes  Dimensions 13x100mm  Fill volume: 6mL
 	Wide Tubes  Dimensions 16x100mm  Fill volume: 10mL