NHS
Blood and Transplant

To: Transfusion Laboratory Manager, Transfusion Practitioner, Chair of RTC, Chair of HTC, Consultant Haematologist with Responsibility for Blood Transfusion and National Haemoglobinopathy Panel

18 January 2024

Genomics Sample Collection

Dear Colleagues

NHS England has been working with NHS Blood and Transplant (NHSBT) on a new national programme of work to better identify blood groups for all current patients in England living with inherited anaemias including Sickle Cell Disorder and Thalassemia and transfusion-dependent rare inherited anaemias. This test has also been made available to those living in Northern Ireland, Scotland and Wales. The programme aims to use a DNA testing array, developed by the Blood transfusion Genomics Consortium (www.bgc.io) to provide extended blood group genotyping and HLA typing. Through this programme, together with a programme that is being rolled out in the donor population, it will over time be possible to identify better matched blood for transfusion and so reduce antibody formation.

From 22 January 2024 the programme will be ready to receive samples to begin the process towards using the newly developed assay. Please ensure that all patients with Sickle Cell and Thalassemia and transfusion-dependent rare anaemias attending hospital are invited to have a blood group genotype DNA based test alongside their routine blood test, even if they have had an extended red cell genotype/phenotype before.

In support of collecting samples for testing please note the following:

1) Pathology Directors have been working on adding the test request to LIMs and/or other Information Management Systems. A SNOMED code for blood group genotyping test is available 1874121000000107 Determination of blood group genotyping of human erythrocyte antigen and human leucocyte antigen using deoxyribonucleic acid microarray analysis (procedure). You can view this on the NHS Digital Termbrowser. A code for results will be available shortly.

2) NHSBT have provided the request form to accompany samples. All details on sampling are listed on the request form. Please ensure all samples are sent with a fully completed form – including the NHS number (patients in England) and

the consent box for testing. If this has not been completed samples will not be tested.

3) Materials are available on the NHS Blood & Transplant website, including a set of Frequently Asked Questions for hospital & lab staff and patients and a patient information leaflet.

4) Tests should be offered to all eligible patients identified, outlining the benefit. Invite them for testing as part of routine appointments, discuss and note consent on the request form.

5) Once NHSBT testing commences, the test uses high throughput batches and a longer initial turnaround time for results is anticipated, especially as we expect to operate a two-stage process: starting with DNA extraction. Genotyping using the new assay will commence following approval from the MHRA. We will communicate to hospitals when the second stage starts.

6) Results will be made available for referring clinical teams via **Sunquest's Integrated Clinical Environment (ICE) web-based system (Sp-ICE) within 1 hour of release.** For samples from the Northern Ireland, Scotland and Wales, results will follow agreed NHSBT reporting processes.

7) It is anticipated that local clinicians will inform patients of results and take clinical actions when required (for example in the event an updated blood group genotyping profile becoming apparent via the programme that may influence choice of blood for transfusion).

Further information on this programme for hospitals and patients can be found here. If you have any questions please contact transfusion@nhsbt.nhs.uk.

Please cascade to laboratory and clinical staff as appropriate.

Yours sincerely,

Anthony Poles
Head of H&I and Molecular Diagnostics, NHSBT

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blood.co.uk