UK NEQAS
Haematology and Transfusion

UK NEQAS Haematology

SURVEY 2305AH:Abnormal Haemoglobins including Liquid Newborn

DISTRIBUTION DATE: 2nd October 2023

CLOSING DATE: 23:59 (GMT); 12th October 2023

1.0 Distribution Package

Distribution 23J includes the following surveys:

1. Full Blood Count
2. Abnormal Haemoglobins, Hb A2, Hb F & Hb S
3. Infectious Mononucleosis
4. Automated Differential Leucocyte Count

A full package comprises a plastic postal bag, containing documentation and a moulded plastic specimen carrier comprising a transparent side holding vials of survey material and/or a slide carrier and an absorbent side that will absorb up to 50ml of liquid, i.e. the entire contents of the package, in the event of a breakage.

Specimens are only included for the tests for which you are registered. If you do not receive the expected combination of specimens, notify us immediately so that appropriate action can be taken.

Repeat specimens may be requested by Email: haem@ukneqas.org.uk or Tel: +44 (0)1923 587111

2.0 Information required for Control of Substances Hazardous to Health (COSHH)

This information is printed on a separate information sheet and should be reviewed by your COSHH assessor for consideration of any changes necessary to your local work practices.

3.0 Use of packaged material

This material is for use in External Quality Assessment Surveys to assess laboratory performance.

4.0 Survey Contents

Participants are supplied with specimens appropriate for their registered details. This survey contains human whole blood specimens:

- Specimens **2305SS1, 2305SS2** and **2305SS3** are for Sickle Cell Screening Test only.
- Specimens **2305AH1, 2305AH2** and **2305AH3** are for Haemoglobin Fraction Identification and Quantitation of Hb A_2, Hb F and Hb S (if present).
- Specimens **2305LN1** and **2305LN2** are for Haemoglobin Fraction Identification.

Please note:

- Specimens **2305SS1, 2305SS2** and **2305SS3** may not be from the same pools as specimens **2305AH1, 2305AH2** and **2305AH3**
- Specimens **2305LN1** and **2305LN2** are only supplied for participants registered for that test.

Specimen handling and disposal

- On receipt, specimens should be stored at 2 - 8°C until tested
- Allow the material to equilibrate to room temperature for 10 minutes on a roller or similar mixer before testing.
- The material should be handled and discarded as patient material.
- Specimens should be tested according to your standard laboratory protocols for sickle cell screening (SS samples only) and/or haemoglobinopathy screening (AH samples only)

Reporting the Results

Fraction Identification:

Abnormal Haemoglobins specimens (AH) - For each sample tick the appropriate fraction(s) found, including Hb A, Hb A_2 and Hb F. If your method does not separate Hb C and Hb E, use the ◊ box. Do not tick both Hb C and Hb E.

Liquid newborn specimens (LN) - As above, except it is not necessary to report HbA_2 where found.

Fraction Quantitation:
Adult Specimens (AH)

- Hb A2 quantitation is not required if Hb S or other abnormal Hb is present.
- Assess your Hb A_2 and Hb F results in terms of your normal reference ranges for an adult male.
- Results reported as "less than" or "greater than" are not included for statistical analysis.

Liquid Newborn Specimens (LN)

- No fraction quantitation results are required.

Interpretation of results:
Clinical details are given to assist you with your suggested interpretation of your results. The details can be found online www.ukneqash.org/sampleentry by selecting the specimen number tab and clicking the link 'Click to view sample details'. Please see table 1 below for reference ranges.

Table 1. Adult reference ranges

Parameter	Female	Male
RBC (10^{12}/L)	3.80 - 4.80	4.50 – 5.80
Hb (g/L)	115 – 155	130 – 165
MCV (fL)	79.0 – 96.0	79.0 – 96.0
MCH (pg)	27.0 – 32.0	27.0 – 32.0

Please note the blood count details given relate to the simulated case and may not be identical to the specimens you have received for testing.

The coded comments are shown in tables 1 and 2 of the document entitled Coded Comments for Abnormal Haemoglobin Surveys and Liquid Newborn Specimens (enclosed). There will be no performance assessment of these comments.

5.0 Return of results

- Return your results on line at www.ukneqash.org/sampleentry or by email to haem@ukneqas.org.uk providing your PRN.
- If you find the specimen quality unsatisfactory, tick the 'unsatisfactory' box and note the details in the Comment box.

6.0 Next Distribution

The next Abnormal Haemoglobins, HbA_2 & HbF Survey (2306AH) is scheduled for 4th of December 2023

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CODED COMMENTS FOR ABNORMAL HAEMOGLOBINS SURVEY

Table 1: COMMENTS FOR ABNORMAL HAEMOGLOBINS (AH) SPECIMENS ONLY

Code	Comments
400	No evidence of a haemoglobin variant or thalassaemia
402	No evidence of sickle haemoglobin
403	No evidence of thalassaemia
404	No evidence of beta thalassaemia
411	Results consistent with sickle cell carrier (Hb AS)
412	Results consistent with Hb C carrier (Hb AC)
413	Results consistent with Hb D carrier (Hb AD)
414	Results consistent with Hb E carrier (Hb AE)
415	Results consistent with Hb variant carrier *(state the variant in the comment box, if known)*
416	Results consistent with Hb A2 variant
417	Results consistent with Hb O ^{Arab} carrier (Hb AO^{Arab})
418	Results consistent with Hb Lepore carrier (Hb A/Lepore)
419	Results consistent with Hb variant carrier of no known clinical significance *(state the variant in the comment box, if known)*
421	Results consistent with Hb SC disease (Hb SC)
422	Results consistent with Hb SD disease (Hb SD)
423	Results consistent with Hb SE disease (Hb SE)
424	Results consistent with Hb SO ^{Arab} disease (Hb SO ^{Arab})
425	Results consistent with Homozygous sickle cell anaemia (Hb SS)
426	Results consistent with Sickle - beta thalassaemia disease
431	Results consistent with beta thalassaemia carrier
432	Results consistent with possible alpha thalassaemia carrier and/or iron deficiency
434	Results consistent with Hereditary Persistence of Fetal Haemoglobin (HPFH) carrier
435	Results consistent with delta beta thalassaemia carrier
441	Raised Hb F
451	Testing the baby's biological father is not required
452	Testing the baby's biological father should be offered
453	Testing the baby's biological father should be offered if he is from a high-risk area *(for alpha zero thalassaemia)*
454	Recommend referral to a Consultant Haematologist
455	Iron status should be checked
450	Other comment (please specify in comment box)

Please Note

The comment codes have been revised: some have been withdrawn, some added and some re-worded.

Please check the codes that you report carefully.

Your comments on the codes used are invited and should be noted in the comment box on your results submission.

There is no need to add either of the following, or any other similar 'footnote' type comments that are added to all reports, to your comments for these EQA exercises:

1. **This data and the interpretation of the data may be misleading if the patient has had a recent transfusion. If so, the tests should be repeated at least four months after the last transfusion.**
2. **Any genetic predictions following these results assume that the family relationships are as stated and sample identification is correct.**

Table 2: COMMENTS FOR LIQUID NEWBORN (LN) SPECIMENS ONLY

Code	Comment
700	No common haemoglobin variant detected: beta-thalassaemia trait cannot be excluded
710	Results consistent with sickle cell carrier
711	Results consistent with Hb C carrier
712	Results consistent with Hb D carrier
713	Results consistent with Hb E carrier
714	Results consistent with Hb O ^{Arab} carrier
715	Results consistent with haemoglobin variant present (but not Hb S, C, D, E or O ^{Arab})
716	Results suggestive of Hb H disease
720	Results consistent with sickle cell disease (HbSS, HbS/beta thalassaemia or HbS/HPFH)
721	Results consistent with Hb SC Disease
722	Results consistent with Hb SD Disease
723	Results consistent with Hb SE Disease
724	Results consistent with Hb SO ^{Arab} Disease
725	Results consistent with Hb S and another variant (but not Hb C, D, E or O ^{Arab})
730	Results consistent with homozygous Hb C or Hb C/ beta thalassaemia
731	Results consistent with homozygous Hb D or Hb D/ beta thalassaemia
732	Results consistent with homozygous Hb E or Hb E/ beta thalassaemia
733	Results consistent with homozygous Hb O ^{Arab} or Hb O ^{Arab}/ beta thalassaemia
734	Results consistent with homozygous Hb Variant (but not S, C, D, E or O ^{Arab}) or Hb variant/beta thal
735	Results consistent with beta thalassaemia major or prematurity (Hb F only or HbA<1.5%)
740	Results consistent with recent transfusion or specimen contamination
745	Follow up referral required
750	Other comment (please specify in comment box)