V. Neonatal Screening

1 Contact information

General Enquiries     2319 8377
Neonatal Screening Laboratory   2319 8379
Scientific Officer (Medical)   2319 8389

Facsimile      2776 3795

Opening Hours: Monday to Friday 9:00am to 5:00pm

2 Specimen collection & storage

(a) Collect specimens using safety precautions and personal protective equipment in accordance with infection control guidelines of your institution.

(b) Dispose of any potentially contaminated materials used for specimen collection in accordance with infection control guidelines of your institution and Code of Practice promulgated by the Environmental Protection Department.

(c) Cord blood
1. Clean the umbilical cord with sterile swabs before cutting to avoid contamination with maternal blood.
2. Take two specimens of cord blood from the placental side of the cord.
   •  2.5 ml cord blood in EDTA bottles for G6PD screening test
   •  2.5 ml cord blood in plain/gel bottles for hypothyroid screening test
3. Blood samples in EDTA should be well mixed immediately to prevent clot formation.
4. Specimen must be labeled with the request form tag number, mother’s name (for multiple births please also state the sequence no.), and mother’s ID no., for sample identification (gum label with mother’s information can be stuck on specimen bottle).
5. Store specimens at 4ºC in refrigerator before sending to laboratory.

(d) Recall case / omitted sampling detected after birth / clinical case
1. Specimen for hypothyroid test (1.5 ml blood in pediatric plain/gel specimen bottle) should be taken on / after Day 5.
2. Specimen for G6PD test (0.5 ml blood in pediatric EDTA specimen bottle) can be taken as soon as possible.
3. Specimen from transfused babies
   •  Hypothyroid test – 1 week after transfusion
   •  G6PD test – 3 months after transfusion
4. Specimen labeled with the request form tag number and baby’s name (e.g. B/O of Chan Siu Mei twin 1)
5. Store specimen at 4ºC in refrigerator before sending to laboratory.

(e) Collection of inappropriate specimens or use of incorrect containers may result in delay in specimen processing or rejection of the request.
3 Birth Registry

For Cord blood samples only.
2 copies of the Birth Registry must be completed for the previous day (from midnight
to midnight). These copies should be sent to the laboratory for crosschecking, daily
from hospital.

4 Laboratory request forms

(a) Cord blood screening specimen
1. Laboratory form, DH1782, obtainable from Neonatal Screening Division,
must be completed and accompany the specimen.
2. The following information must be provided on the form: Mother’s name,
baby’s surname, baby’s date of birth, baby’s sex, contact number, address,
hospital registration number, doctor’s name and sender’s signature.

(b) Recall case
1. Completed request form, DH1782 must accompany the specimen.
2. The following information must be provided on the form: baby’s name, baby’s
date of birth, baby’s sex, doctor’s name and sender’s signature.
3. Please tick “non cord blood” on the form and fill in the date of sample
collection.

(c) Omitted sampling detected after birth
This applies to either when cord blood sample was omitted during deliveries in
hospitals or Maternity Homes, or deliveries occurred prior to arrival at various
units.
1. Laboratory form, DH1782, obtainable from Neonatal Screening Division,
must be completed and accompany the specimen.
2. The following information must be provided on the form: Mother’s name,
baby’s name, date of birth, baby’s sex, contact number, address, hospital
registration number, doctor’s name and sender’s signature.
3. Please tick “non cord blood” on the form and fill in the date of sample
collection.

(d) Incomplete patient information, inappropriate specimens or use of incorrect
containers may result in delay in specimen processing or rejection of the
request.

5 Transport of specimen

(a) Ensure container is properly capped without leakage and placed in transparent
plastic bag.
(b) Keep specimens at 4°C if delay in transport to the laboratory cannot be avoided.
(c) Keep specimen upright to minimize spillage.
(d) Keep specimen at cool environment during transport.
(e) There should be no direct contact between specimen and forms
6  Turnaround time (TAT)

(a) The following TATs serve only as a general reference. In case confirmatory tests are required, the TAT may be lengthened accordingly.
(b) For urgent requests, please contact laboratory staff for special arrangements.
(c) Additional tests on specimens previously sent to the laboratory may be requested via telephone.

Such tests will be performed on the following conditions:
- Test(s) requested by a medical staff
- Appropriate clinical indications
- Sufficient amount of the appropriate sample available in the laboratory

<table>
<thead>
<tr>
<th>Tests</th>
<th>TAT (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypothyroid test</td>
<td>3</td>
</tr>
<tr>
<td>G6PD test</td>
<td>2</td>
</tr>
</tbody>
</table>

7  Reference range

Reference ranges may be revised as needed. Please refer to the laboratory report for the most updated reference ranges.

8  Critical Reporting by fax

<table>
<thead>
<tr>
<th>Screening specimen</th>
<th>G6PD (U/gHb)</th>
<th>TSH (mIU/l)</th>
<th>FT4 (pmol/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Applicable</td>
<td></td>
<td>&gt; Reference Range (Both male &amp; female)</td>
<td>&lt; Reference Range (Both male &amp; female)</td>
</tr>
<tr>
<td>Borderline normal (Male only)</td>
<td></td>
<td>&gt; Reference Range (Both male &amp; female)</td>
<td>&lt; Reference Range (Both male &amp; female)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recall &amp; Follow-up Cases</th>
<th></th>
<th>&gt; Reference Range (Both male &amp; female)</th>
<th>&lt; Reference Range (Both male &amp; female)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Applicable</td>
<td>&gt; Reference Range (Both male &amp; female)</td>
<td>&lt; Reference Range (Both male &amp; female)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Clinical Cases</th>
<th></th>
<th>&gt; Reference Range (Both male &amp; female)</th>
<th>&lt; Reference Range (Both male &amp; female)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deficient (Both male &amp; female)</td>
<td></td>
<td>&gt; Reference Range (Both male &amp; female)</td>
<td>&lt; Reference Range (Both male &amp; female)</td>
</tr>
<tr>
<td>Borderline normal (Male only)</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

9  Test interference

Users can contact Neonatal Screening Division to get information on interference/limitation of assay method.

10  Laboratory complaint procedure

Users can contact Scientific Officer (Medical) of Neonatal Screening Division.

11  Personal data security

Neonatal Screening Division abides by the personal data policy under Department of Health. For further details please refer to Departmental website (www.dh.gov.hk).