DEADLINE WEDNESDAY 2 AUGUST 2017

Recommended code of practice for cytology laboratories participating in the UK cervical screening programmes.
British Society for Cytopathology. October 2015 (www.britishcytology.org.uk/resources/BAC-Code-of-Practice-2015vs2.pdf). Assessment No: 050817

01	The BAC code of practice guidance will only be useful for NHS cytology laboratories.
02	Consultant pathologists working in the CSP do not need any experience of the programme and will not require any training.
03	A lead biomedical scientist within cervical cytology must be actively involved in cervical cytology, usually as a checker or consultant biomedical scientist.
04	It is recommended that the work of locum agency staff for screening is double-screened for at least one week by checker staff.
05	All hospital trusts in England providing any element of the NHSCSP must have a formally appointed hospital-based programme coordinator.
06	Hospital-based programme coordinators must have a basic understanding of the NHSCSP.
07	Cases referred by the primary screener as high-grade dyskaryosis and considered negative or inadequate by the checker must be passed to a second checker or more senior staff for review before reporting as such.
08	Checkers also participating in primary screening should screen a minimum of 750 slides per annum.
09	Checking of cervical screening samples can only be carried out for a maximum of five hours per day.
10	All samples awaiting transportation or in transit must be refrigerated.
11	Where any discrepancy is noted between the vial and the request form, the sample should be destroyed.
12	Staining QC checks should be carried out daily and also for each new batch of stain by appropriately trained screening staff.
13	Non-microscopic duties can act as breaks from microscopy.
14	A recently published study on LBC adequacy concluded that SurePath slides require a minimum average cell count (MACC) of 15,000 and for ThinPrep 5000 to achieve a balance between sensitivity and adequacy rates.
15	Where the Hologic ThinPrep Imaging System is used the primary screener will examine 22 fields of view and if any potential abnormality is found a full manual screen of the whole sample must be performed.
16	Where rapid prescreening is used the laboratory must ensure that any abnormal samples are removed from the primary screening workload.
17	Split or multisite working may require the use of video conferencing but at least some of the MDTMs should involve direct face-to-face contact in order to help maintain and develop professional working relationships among members.
18	Rule-based LIMS systems must be used to prevent entry of illogical or inappropriate decisions.
19	Mandatory NHSCSP performance measures are inadequate/rates, PPV and referral value, with the satisfactory performance range being the 10th–90th percentile.
20	TPV, APV and PPV/APV plot diagram, mean CIN score and HPV-positive rate for BNC/low-grade samples may be useful parameters for assessing laboratory performance.

Diagnostic power of laboratory tests for hereditary spherocytosis: a comparison study in 150 patients grouped according to molecular and clinical characteristics.
Bianchi P, Fermo E, Vercellati C *et al. Haematologica* 2012; **97** (4): 516-23 (www.ncbi.nlm.nih.gov/pmc/articles/PMC3347664). Assessment No: 050417

01	Opinions on routine use of the cryohaemolysis test for the diagnosis of hereditary spherocytosis are stated to be controversial.
02	The Pink test differentiates hereditary spherocytosis from secondary spherocytosis that is due to autoimmune haemolytic anaemia.
03	The sensitivity of the EMA-binding test was slightly higher in splenectomised patients than in non-splenectomised patients.
04	All patients with hereditary elliptocytosis had a normal osmotic fragility curve after incubation.
05	The molecular defect for hereditary spherocytosis involves the genes encoding for spectrin, ankyrin, band 3 and protein 4.2.
06	Non-splenectomised patients with mild anaemia had the lowest median reticulocyte count.
07	The acidified glycerol lysis test (AGLT) identified 10 EMA-negative cases of hereditary spherocytosis.
08	The sensitivity of AGLT was lower than GLT in non-splenectomised patients with compensated anaemia.
09	EMA-binding test results are unreliable if the patient has had a recent red cell transfusion.
10	One patient with ankyrin deficiency was positive only in the EMA-binding test.
11	Fluorescence intensity in the EMA-binding test was expressed as mean channel fluorescence for 10,000 events in the FL-1 channel.
12	Eosin-5′-maleimide directly interacts with spectrin and protein 4.2.
13	Percent fluorescence reduction in EMA-binding directly related to numbers of spherocytes in the patients with marked spherocytosis.
14	The combination of EMA-binding and GLT enabled identification of all the patients with hereditary spherocytosis.
15	The EMA-binding test has been proven to be a sensitive and specific diagnostic test for hereditary spherocytosis.
16	Sensitivity of EMA-binding is stated to be similar to that found by Girodon *et al.*
17	The Pink test can differentiate hereditary spherocytosis from congenital dyserythropoietic anaemia type II.
18	Median haemoglobin level was higher in splenectomised patients.
19	Glycerol-based assays are less specific for hereditary spherocytosis than EMA-binding since they are often positive in acquired haemolytic anaemias.
20	The specific hallmark of hereditary spherocytosis is the presence of spherocytes on a peripheral blood smear.

REFLECTIVE LEARNING

01	Discuss how the BAC code of practice is applied within your laboratory. What approach would you take to implement the changes?
02	Critically evaluate how your laboratory complies with Standard 4 – 'Screening and reporting of cervical cytology'.

01	Suggest and justify a diagnostic repertoire of two to three assays to maximise detection of hereditary spherocytosis without access to a flow cytometer.
02	With reference to assay designs and pathophysiology, describe why the EMA-binding test may have greater sensitivity to hereditary spherocytosis than the other assays described in this paper.