Guidance on BCG vaccination for Healthcare students

Tuberculosis (TB) is a serious infection, which can lead to significant morbidity and on occasions if untreated or complicated, to death. Vaccination with BCG provides protection, particularly in children, but its efficacy and protective value is variable in adults. Currently there is a very limited supply of BCG and Occupational groups for vaccination have been classed as low priority by Public Health England [PHE].

Recommendations:
Healthcare students who are not vaccinated with BCG can work unrestricted within the clinical settings. BCG vaccination will be offered to these students when BCG vaccine becomes available. There is a potential but very small risk for transmission of infection to unvaccinated Healthcare students.

To reduce the risk further:

- All new Healthcare students will have routine screening conducted in accordance to the Department of Health and NICE guidelines, to identify individuals with active infection and those eligible for vaccination.
- Students who would normally be eligible for BCG can continue working unrestricted at times of short supply, and to receive the vaccine when supplies are restored [PHE guidance].
- Students who are considered eligible for BCG will be informed of the shortage and provided with written details on the disease and symptoms that may potentially indicate infection and when to seek medical advice.
- A database will be compiled on unimmunised students and a recall system for vaccination when BCG becomes available.
- Non-immunised staff must ensure that they adhere to the local Trust Tuberculosis (TB) Infection Prevention and Control policy
- In most NHS hospitals, suspected/known TB patients are cared for on the respiratory ward and in side rooms and this would operationally minimise the risk of acquisition of tuberculosis by staff from patients.
- Students will be advised to follow strict infection control measures.

Background:

Tuberculosis:
Tuberculosis (TB) is a bacterial infection spread through inhaling tiny droplets from the coughs or sneezes of an infected person. It mainly affects the lungs, but it can affect any part of the body, including the tummy (abdomen) glands, bones and nervous system. The symptoms of TB are varied and they depend on the site of infection. General symptoms may include fever, loss of appetite, weight loss, night sweats and lassitude. Pulmonary TB typically causes a persistent productive cough, which may be accompanied by blood-streaked sputum or, more rarely, frank haemoptysis.

The BCG immunisation programme is now a risk-based programme, the key part being a neonatal programme targeted at protecting those children most at risk of exposure to TB, particularly from the more serious childhood forms of the disease.
Occupational groups for vaccination have been classed as low priority by Public Health England [PHE].
HCWs [Health Care Workers]:
HCWs are those who work within a healthcare setting and may be directly or indirectly involved with patient care. Although the risk of a healthcare worker (HCW) contracting the disease in the course of their work is considered small, the risk still exists. Conversely, an infectious HCW can spread infection to patients. Some patients for example children, immunocompromised patients, may be particularly vulnerable and become seriously ill, even resulting in death.

TB Screening for HCWs:
Routine pre-placement screening for tuberculosis includes an assessment of personal or family history of TB, TB symptom and signs enquiry, possibly by questionnaire and BCG scar check. If there is no BCG scar, they would be offered Mantoux skin test. If the Mantoux skin test is positive (>5 mm), they will be offered IGRA test. A positive IGRA test indicates either an active TB or latent TB. These individuals would then be offered chest x-ray and will be referred to the specialist. If the Mantoux skin test were negative then the individual would be offered BCG vaccination. However since there is shortage of BCG vaccine the current practice is to offer it to eligible HCWs when stocks become available.

Rationale:
- It is uncommon to have patients with unidentified infectious TB in the hospital.
- The risk of infection normally requires prolonged period of exposure (usually eight hours or more cumulative); it is uncommon for Healthcare students to have such a level exposure.
- From epidemiological studies, although the incidence of TB in HCWs is higher than non-healthcare workers it is suggested that this is likely to be re-activation of previous latent TB acquired from country of origin rather than through their work.
- Strict adherence to infection control policies and procedures will reduce risk of acquiring infection
- It is therefore considered that the likelihood of an unvaccinated HCW acquiring tuberculosis is considered to be low, particularly with the additional precautions and control measures as above.