Whooping cough (Bordetella pertussis) diagnosis.

Whooping cough is a contagious disease of the upper respiratory tract caused by the fastidious gram negative coccobacillus Bordetella pertussis and Bordetella Parapertussis. The main symptoms include an initial phase of malaise and fever followed by a more prolonged period of bouts of coughing with the characteristic whooping sound as the patient gasps for breath.

Incubation period: 7-10 days
Initial period of infection: 5-7 days
Period of paroxysmal cough: several weeks up to 3 months

Diagnosis
Early precise diagnosis is desirable as this can aid individual treatment, outbreak control, and epidemiological studies.
Culture has a very low sensitivity (yield) of 20-40% and has largely been supplanted by the more sensitive method of PCR testing.
Serology can be useful but only in the later stages of the disease, 3 or more weeks after onset. Serological testing requires a red-toped bottle, clotted blood, specimen.

Specimen
The specimen required is the pernasal swab and any other form of swab is useless and will be rejected by the laboratory. The pernasal swab consists of a very small bead swab (of Rayon or Dacron) at the end of a long flexible wire. This is required to be passed the nasal cavity to sample the posterior naso-pharyngeal wall.
A standard nasopharyngeal aspirate, is also an acceptable specimen.
Pernasal swab kits can be obtained on request from WHT Microbiology department. After collecting the specimen using correct technique (see below) the swab tip can be snipped off, using a sturdy pair of scissors, into a vial of viral transport medium or sent in a dry cover. Do not send specimen in charcoal medium.

Correct technique for obtaining pernasal swab specimen.

Gloves should be worn and, if the patient has an ongoing cough, surgical mask and eye protection (wash hands before donning protective equipment). The pernasal swab needs to be passed backwards through the nasopharynx until it makes contact with posterior wall (see above). When in contact with the posterior wall the swab can be felt to meet resistance as it bends slightly downwards. At this point carefully rotate the swab back and forth for a few seconds to dislodge cells, and then gently remove the swab. The process is irritating and may induce a bout of coughing.