EPIDEMIOLOGY
- Diphtheria is an acute bacterial disease caused by Corynebacterium diphtheriae.
- It usually affects the upper respiratory tract (tonsils, pharynx, larynx, and nose) and occasionally the skin or other mucus membranes.
- It is highly infectious and the most common mode of transmission is by infected droplets spread by contact with an infected person.
- The incubation period is usually two to five days but may be longer.
- Diphtheria has a case fatality rate of five to 10 per cent, with the highest death rates occurring among the very young and older people.

DIAGNOSIS
- Swabs are taken from the nose and throat as well as from any wound or skin lesions. If C. diphtheriae is isolated it will be tested for toxin.
- Blood samples are taken to determine the levels (if any) of antibodies to the diphtheria toxin.

SYMPTOMS
- The main diagnostic feature of respiratory diphtheria is a ‘wash leather’ greyish-green membrane or exudate on the tonsils with a well-defined edge. There may also be enlarged anterior cervical lymph nodes and oedema of the surrounding soft tissues, a so-called ‘bull neck’.
- Patients may also complain of a mild sore throat and pain on swallowing. A low-grade fever may be present. However, patients do generally experience tachycardia.
- Laryngeal diphtheria is characterised by increasing hoarseness and stridor.
- Nasal diphtheria is usually mild and chronic and the main distinguishing symptom is a unilateral or bilateral nasal discharge, which is initially clear and later becomes bloody and foul-smelling.
- Cutaneous diphtheria usually appears on exposed parts of the body, especially the legs. Lesions appear as vesicles and then quickly form small ulcers. It tends to occur in the tropics.

COMPLICATIONS
- The bacterium produces a systemic toxin that is particularly damaging to the heart and central nervous system, leading to arrhythmias, cardiac failure or paralysis.
- The membrane may narrow the airway or it can become completely detached and block the airway, causing breathing difficulties.

TREATMENT
- Patients with diphtheria require immediate isolation in hospital.
- Treatment consists of an antitoxin and an antibiotic.
- The antitoxin must be administered immediately because once the toxin is fixed to the tissues it cannot be neutralised by the antitoxin.
- The antibiotic needs to be administered for one week to completely eliminate the bacteria.
- Infection does not confer immunity so the patient should receive immunisation before discharge.

CONTACT TRACING
- All cases, whether suspected or confirmed, should be notified immediately to the local consultant in communicable disease control.

IMMUNISATION
- Diphtheria immunisation is recommended for all infants from two months old, as part of routine infant vaccinations.
- A booster dose is also recommended for children immediately before school entry and again for school leavers aged 15 to 19 years.

REFERENCES

WEBSITES
Health Protection Agency: www.hpa.org.uk
Department of Health Immunisation Information: www.immunisation.org.uk

What you need to know about...
DIPHTHERIA

The geographical distribution of cases of diphtheria reported to the World Health Organization (1997 – present)