

early removal of adenoids has secured to many thousands, better nutrition of body and greater activity of brain than they would ever have had in olden days.

It is, in these directions, therefore, that we hope Parliament will work—in the solution of the great problem of making good the terrible war wastage of our splendid men.

### OUR PRIZE COMPETITION.

DESCRIBE THE DIFFERENT KINDS OF SPUTUM, MENTIONING THE CASE IN WHICH EACH IS FOUND. HOW WOULD YOU DISINFECT THAT FROM A CASE OF PHTHISIS?

We have pleasure in awarding the prize this week to Miss Doris Tayler, St. Bartholomew's Hospital, Rochester.

#### PRIZE PAPER.

The various kinds of sputum are as follows :

1. *The sputum of phthisis*, sometimes called *flocculent*, because the sputa resemble irregular balls of wool. This sputum is most copious in the early morning. In the early stages of the disease it is not different from that of bronchitis, but when the disease is well established, the sputum is purulent and streaked with blood, the individual sputa remaining apart. The sputum of phthisis is distinguished by the presence of blood and the tubercle bacilli.

2. *The sputum of pneumonia*, which is rust-coloured, sometimes even bright red. It is very viscid, and is adherent to the vessel containing it. If examined microscopically, pneumococci can be detected.

3. *The sputum of bronchitis* is scanty at first, consisting of thin, frothy mucus, with sometimes a tinge of blood. In a few days, when coughing becomes easier, the expectoration is more abundant, opaque, and yellow or green from the addition of leucocytes. Owing to accumulation during sleep, expectoration is greater in the morning. In large towns the sputum is frequently black with pigment derived from the atmosphere.

4. *The sputum of foetid bronchitis* has an offensive odour for its principal feature. This odour is due to the secretions accumulating in the dilated bronchial tubes having undergone decomposition.

5. *The sputum of bronchiectasis* is either purulent and airless or foetid and frothy, like that of foetid bronchitis.

6. *The sputum of plastic bronchitis* is seldom seen, as the disease is extremely rare. This affection is characterised by the expectoration of casts of the bronchial tubes; the cast is not

generally thicker than a goose quill, and varies in length from  $1\frac{1}{2}$  to  $2\frac{1}{2}$  inches. It has a grey or whitish yellow colour; the casts are not solid, except from the smallest tubes.

7. In cases of *carcinoma of the lung*, the sputum is mucus tinged with blood, and sometimes mucus mixed with large quantities of blood. Occasionally it is dark in colour, and resembles currant jelly, but hæmoptysis is rare in these cases.

8. *The sputum in pulmonary gangrene* is of a putrid odour, it is grey or greenish brown, and fragments of gangrenous lung tissue may be found.

9. *The sputum of asthma* consists of thin, transparent mucus, and may be mixed with a little blood; it often contains ciliated epithelial cells. (Ciliated epithelium is found lining the trachea and bronchial tubes.)

The main point to remember when disinfecting the sputum of a phthisical patient is to keep that sputum moist. Expectoration is the great source of infection in these cases, and if the sputum is allowed to dry, the bacilli will gain access to the surrounding air.

The patient must expectorate into a vessel containing a little strong soda solution, or else sol. carbolic acid 1-20, and the vessel must be kept covered.

Out of doors a pocket spittoon containing soda solution can be used.

All infected sputum should be burnt, if possible.

#### HONOURABLE MENTION.

The following competitors receive honourable mention:—Mrs. M. A. Ross, Miss M. C. Brown, Mrs. Farthing, Miss K. Temple.

Mrs. M. A. Ross gives the following method of disinfecting the sputum:—

The patient should have a special cup, and, if able to go about, a flask also. In the bottom of each cup or flask a liquid disinfectant should be poured. (It is essential that the sputum be kept moist, as particles of dried sputum carry infection.)

If the patient is in a sanatorium the sputum cups are collected at regular intervals and emptied into a consumer. This is a special pan with an opening top and bottom, the top fitted with a lid, and the bottom with a small fire grate or door. This pan is encased in brickwork, and the fire is put inside the pan (hence the necessity for the door at the bottom). The sputum is emptied into this consumer.

#### QUESTION FOR NEXT WEEK.

What conditions are likely to lead to rupture of the perineum?

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