

solution until the absorption curve is identical with that of a freshly prepared glucose standard (Table III). Blood-glucose figures, determined by the method outlined below but compared with standards in a photo-electric

TABLE III.—*Method of Preparing the Secondary Standards*

50 mg./100 ml.	78 ml. H ₂ O, 1.5 g. CuSO ₄ .5H ₂ O, 0.5 ml. Solution 1
150 mg./100 ml.	48 ml. H ₂ O, 3.0 g. CuSO ₄ .5H ₂ O, 0.5 ml. Solution 1
300 mg./100 ml.	45 ml. H ₂ O, 6.0 g. CuSO ₄ .5H ₂ O, 0.0 ml. Solution 1

Solution 1: 59.5 mg. Cu₂O, 2 ml. H₂O, 3 ml. phosphomolybdate solution.

colorimeter, showed good agreement with figures obtained from the same blood samples using the standard Hagedorn and Jensen method. Results for sugar levels in 10 consecutive blood samples estimated by both methods are given in Table IV. In a complete series of 60 estimations the two methods agreed with a standard error of 13.2% over the whole range from 30 to 380 mg. per 100 ml.

TABLE IV.—*Comparison of New Method with that of Hagedorn and Jensen*

New Method	H. & J.	New Method	H. & J.
110	97	235	236
29	39	130	147
224	226	66	58
76	76	176	182
148	154	81	102

Apparatus.—0.1 ml. wash-out blood pipette; test-tube graduated at 3.7 ml., with rubber bung; funnel and filter papers; test-tube graduated at 1, 1.5, 2, and 5 ml.; water-bath with spirit heater; set of standards.

Reagents (in Dropping-bottles).—Isotonic copper and sodium sulphate solution: 320 ml. 3% Na₂SO₄.10H₂O and 30 ml. 7% CuSO₄.5H₂O. Sodium tungstate, 10% w/v. Solution A: 1.3% CuSO₄.5H₂O. Solution B: 2.4% sodium potassium tartrate; 4% sodium carbonate; 5% sodium bicarbonate; 3.68% potassium oxalate; 0.14% potassium iodide. Colour reagent: Phosphomolybdate solution of Folin and Wu (1920).

Method.—0.1 ml. of blood is collected from a finger or ear puncture and washed into 3.7 ml. of isotonic sodium and copper sulphate solution in the tube graduated at this level. (The determination may be stopped at this stage for an hour or two if necessary.) Four drops (0.2 ml.) of sodium tungstate are added and the tube stoppered and vigorously shaken. The protein precipitate is removed by filtration through a fluted paper and 1 ml. of the filtrate collected in the tube graduated at 1, 1.5, 2, and 5 ml. Solution A is added to the 1.5 ml. mark and Solution B to the 2 ml. mark, the tube being agitated after each addition. It is then placed in boiling water for 10 minutes. After cooling, the colour reagent is added to the 5 ml. mark and the colour compared with the standards.

REFERENCES

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The British Council has arranged to hold courses this year for specialists from overseas on the following subjects: "The Nursing Profession" (Edinburgh, June 22–July 6); "British Health Services To-day" (Cardiff, May 31–June 14); "Public Health" (Bristol, September 8–29); "The Psychological Treatment of the Problem Child" (Glasgow, November 1–22); and "Juvenile Delinquency" (London, October 4–25). The average length of the courses is two to three weeks.

Medical Memorandum

Foreign Body in Pharynx

The swallowing of foreign bodies by mentally deranged patients is an occurrence of considerable frequency. The variety and size of the objects have been described in many previous articles. The following case is recorded as the foreign body was exceptional in its type and size.

CASE REPORT

A man aged 32 had been an in-patient of a large mental hospital in the London area as a chronic schizophrenic with an escapist complex. He was noted for his ability to swallow foreign bodies, and gave a detailed account of previous objects he had successfully swallowed. During the morning of May 1, 1949, a quarrel occurred between the patient and another inmate, and the former extracted a crucifix from the pocket of the other patient and deliberately swallowed it. When seen 48 hours later his condition was poor, he was markedly dehydrated, and he complained of considerable soreness in his neck.

On examination the neck was found to be red and oedematous just below the cricoid cartilage. No foreign body was palpable. X-ray examination revealed a crucifix situated in the oesophagus, extending from the lower border of the cricoid cartilage to the upper border of the manubrium sterni, being held up just on the thoracic inlet and situated in an upright position (see illustration). Oesophagoscopy under gas, oxygen, and ether was performed on May 2 at the mental hospital, but the muscular relaxation was not sufficient to allow removal.

The patient was then transferred to Westminster Hospital, and it was decided to attempt removal by oesophagoscopy under general anaesthesia. Thiopentone induction, 0.6 g., was given, an intratracheal tube passed, and the anaesthesia maintained with gas and oxygen and 15 mg. of tubocurarine intravenously. Complete relaxation of constricted musculature was obtained. A large Mosher oesophagoscope was passed by Mr. Miles Foxen, and a curved wire was introduced through the hole at the upper part of the crucifix. The foreign body was then successfully trailed with minimal trauma. The crucifix was 2 in. (5 cm.) in length, with a transverse bar of 1½ in. (3.2 cm.). Penicillin was given intramuscularly for three days. The patient made an uninterrupted recovery.

I wish to thank Dr. Beccle, superintendent of the mental hospital, Mr. G. T. Mullally, and Mr. Miles Foxen for permission to publish this case, and the Department of Medical Photography, Westminster Hospital, for the radiograph.

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During the year 1949 Dr. Barnardo's Homes admitted 1,219 boys and girls. In 84 years' work they have rescued about 138,500 needy children.



Radiograph showing position of the crucifix.