laundry and looking after her two children. A blood count showed Hb 58%, R.B.C. 2,960,000, C.I. 0.98, W.B.C. 11,400. The red cells were normal in size, shape, and staining. The white cells were of normal adult type. A radiograph of the chest revealed no abnormality. A barium meal showed total gastrectomy, with a filling defect in the transverse colon. (Fig. 4.)

She was discharged home a few days later and died on Feb. 5, 1942—3 years 6 months after total gastrectomy. No necropsy was performed, though she must certainly have died of abdominal metastases.

Summary

A brief review of total gastrectomy shows that the operation is indicated for patients in good condition when the carcinoma is operable and the anastomosis can be performed without tension.

Life after total gastrectomy is on the whole short, though those that survive may enjoy reasonably good health without any serious dietetic restriction.

A further 47 successful cases have been collected from the available English literature since Roeder's article in 1933, making a total of 135 reported cases of total gastrectomy.

In addition two personal cases surviving the operation by 3 years 2 months and 3 years 6 months, respectively, are described.

REFERENCES

- Allen, Arthur W. (1938). *Amer. J. Surg.*, **40**, 35.
 Atkinson, W. A., and Masson, J. C. (1934). *Proc. Mayo Clin.*, **9**, 356.
 Baker, J. W. (1941). *Northwest Med.*, **40**, 277.
 Brigham, Charles B. (1898). *Philadelphia med. J.*, **5**, 247.
 Chavasse, T. F. (1899). *British Medical Journal*, **1**, 967.
 Clute, H. M., and Albright, H. L. (1937). *Amer. J. Surg.*, **35**, 56.
 — and Mason, R. L. (1930). *Trans. New Engl. surg. Soc.*, **13**, 83. Also *New Engl. J. Med.*, **203**, 909.
 Conner, Phineas S. (1884). *Med. News*, **45**, 578.
 Donald, C. J. (1941). *Proc. Mayo Clin.*, **16**, 446.
 Eusterman, G. B., and Balfour, D. C. (1935). *The Stomach and Duodenum*, p. 634. Philadelphia.
 Finney, J. M. T., and Rienhoff, W. F. (1929). *Arch. Surg.*, **18**, 140.
 Flint, E. R. (1928). *British Medical Journal*, **2**, 979.
 Graham, Roscoe (1940). *Surgery*, **8**, 257.
 Gray, H. K., Walters, W., and Priestley, J. T. (1941). *Proc. Mayo Clin.*, **16**, 726.
 Jackson, J. A. (1941). *Amer. J. Surg.*, **51**, 414.
 Jennings, John E. (1936). *Ann. Surg.*, **104**, 957.
 Jones, Chester M. (1940). *Amer. J. dig. Dis.*, **7**, 502.
 Jones, T. E. (1941). *Cleveland clin. Quart.*, **8**, 225.
 Jordan, Sara M. (1941). *J. Amer. med. Ass.*, **116**, 589.
 Lahey, Frank H. (1938). *Surg. Gynec. Obstet.*, **67**, 213.
 Lemmon, W. T., and Paschal, G. W. (1940). *Ann. Surg.*, **112**, 31.
 Livingston, E. M., and Pack, G. T. (1939). *End Results in Treatment of Gastric Carcinoma*, New York.
 Lynch, R. C., and Priestley, J. T. (1941). *Proc. Mayo Clin.*, **16**, 653.
 MacDonald, G. Childs (1898). *J. Amer. med. Ass.*, **31**, 538.
 Maingot, Rodney (1941). *Abdominal Operations*, vol. 1, London.
 Meyer, Karl A., et al. (1941). *Arch. Surg.*, **42**, 18.
 Morrison, W. B. (1941). *Ohio State med. J.*, **37**, 453.
 Morrison, William R. (1933). *New Engl. J. Med.*, **209**, 1329.
 Moynihan, Sir Berkeley (1903). *British Medical Journal*, **2**, 1458.
 — (1907). *Lancet*, **2**, 1748.
 Neel, H. B., and Waugh, J. M. (1939). *Tri-State med. J.*, **12**, 2374.
 — (1940). *Proc. Mayo Clin.*, **15**, 487.
 Percy, Nelson M. (1934). *Surg. Clin. N. Amer.*, **14**, 951.
 Priestley, J. T., and Randall, K. C. (1941). *Proc. Mayo Clin.*, **16**, 81.
 Roeder, C. A. (1933). *Ann. Surg.*, **98**, 221.
 Rowlands, R. H., and Levy Simpson, S. (1932). *Lancet*, **2**, 1202.
 Streicher, M. H. (1934). *Illinois med. J.*, **65**, 520.
 Verbrugghen, Adrian (1931). *Proc. Mayo Clin.*, **6**, 765.
 Walters, W., Gray, H. K., and Priestley, J. T. (1940). *Coll. Papers Mayo Clin.*, **32**, 192.
 — and Horton, B. T. (1937). *Proc. Mayo Clin.*, **12**, 773.
 Walton, Sir James (1936). *Lancet*, **1**, 1101.
 Waugh, J. M., and Giffin, L. A. (1941). *Proc. Mayo Clin.*, **16**, 363.

The annual general meeting of the British Social Hygiene Council, the first since it became an independent voluntary body with no financial or other control by the Ministry of Health, was held at B.M.A. House with the president, Sir Walter Langdon-Brown, in the chair. The council is now devoting its energies to the promotion of social biology, including the social implications of venereal disease, and the president took as the subject of his address "The Place of Social Biology in the Sciences." He stressed the interdependence of all life, pointing out that all living organisms, from the lowest to the highest, were governed by the same natural "laws." After showing that the kinetic energy of animals was derived from the potential energy stored in plants, he traced the progressive stages in animals from reflex action to instinct, from instinct to intelligence, and from this to the still higher values of life. The annual report of the council was adopted, and on the motion of Mr. McAdam Eccles the officers were re-elected, as also was the executive committee, which was strengthened in the field of social biology by the addition (*ex officio*) of the chairmen of the newly appointed committees, including Prof. F. A. E. Crew, F.R.S., and Sir Francis Fremantle.

PREPARATION OF THE HANDS FOR OPERATION

BY

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If the shortage of gloves continues we may, as a war necessity, have to operate without them. In point of fact, the use of rubber gloves in surgery is comparatively recent: they were introduced in the early years of this century. I have it on the good authority of a surgeon who operated before that time that the cases did well. I operated without gloves for some years as assistant to Sir Harold Stiles, who did not use them in clean cases. I have no recollection of a single case becoming infected. The following method, which I was taught to use and which I habitually employed, may prove of interest and value to surgeons and nurses. It is reliable. It takes a little time and trouble, but safe hands are worth it. As one becomes expert the time taken can be shortened.

The Procedure

Three washings are carried out. The first is for 10 minutes in a sterile basin half full of very warm water, to which soap spirit has been added. It is whipped up into a good lather. A soft but firm sterile nail-brush is used to scrub the fingers and palms, particularly in the line of the skin folds—i.e., across the hand. The scrubbing should not be strenuous on the backs of the hands, the wrists, forearms, and elbows, as the skin in these situations is thin. Special attention is paid to the tips, sides, and clefts of each finger, with the hands in the lather. A test of one's efficiency is to cover the hands with lamp-black in oil and wash them off in the dark or blindfold. Any parts still black will show what areas are being inadequately scrubbed.

For the second washing, the basin is filled with a change of warm water. Soap spirit is added as before, and a tablespoonful of cresol. The process of washing and scrubbing is repeated for 5 minutes.

A final wash of 3 minutes in a fresh sterile basin, with another sterile brush, rather softer than the other, and using water and cresol only, is given. The hands, wrists, and forearms are then rinsed in warm sterile saline.

During the operation the surgeon uses two lotion-basins: one contains warm sterile water and cresol, the other sterile saline. The former is for washing blood from his hands, which are then passed through the saline. Cresol and water are ideal for clearing the hands of blood. Somebody may say that cresol, lysol, or antiseptol used in the manner indicated will irritate the skin. If one obtains a good antiseptic of this type, this is not likely to happen, especially if on completing the operation a point is made of washing the hands and arms with soap under the running tap. This is an important point to remember.

An operation begins with the preparation of the hands. Whichever plan is adopted, it should be thorough and unhurried, whether gloves are used or not. It must stand up to the test of producing good results. For those who have never tried to operate without gloves I can give the assurance that there need be no alarm on that score if the above method is carefully employed. I think that an antiseptic is required. It is for this reason that I prefer use of the sterile basins rather than washing-up beneath the running tap with soap and water only.

The best way to scrub the finger-tips and the backs of the fingers is by holding the brush steady beneath the lather, bristles uppermost, and moving the fingers of the other hand rapidly to and fro across it. Between operations, the final washing described above is repeated for about 2 minutes. If a very pure cresol is used it can be in surprising concentration actually without irritating the skin: the surgeon soon learns by experience how much to use. In the first wash-up the soap spirit is poured in from a bottle; the soap spirit and the cresol in sterile dishes are placed at the surgeon's side.