to overfeed a baby, provided the strength of the mixture is right, the hole in the teat is not too large, and the baby is not allowed to suck too long. A baby at the breast takes as much as he wants, and only leaves off when he is satisfied; a baby at the bottle should do the same. If a breast-fed baby gets a little too much he regurgitates the surplus quite easily; a baby at the bottle does just the same. I would even go so far as to suggest that if a baby does not occasionally bring up a little food he is not getting enough to eat.

Unfortunately there is a school that teaches that the correct way to feed an infant is to give it a limited amount of food at three or even four hourly intervals. Most textbooks recommend intervals of about two hours, but nearly all lay down the exact amount of food to be given at each feed, even to within $\frac{1}{2}$ or $\frac{3}{4}$ oz., which to my mind is absurd. In two works a rational method is advocated: Hutchison and Stanfield Collier's *Index of Treatment* recommends that the baby be allowed to suck until he is satisfied, as he will easily regurgitate any surplus, but the amount of food is not mentioned. Tweedy and Wrench give the quantity of from 1 to 3 oz. at two-hourly intervals; this variation seems to me sound.

It is true that the infant mortality has much decreased of late years, but this, I suggest, is not due to the system of starvation, but to the general introduction of regular feeding, cleanliness, and the better mixture of the food. The system of long intervals and limited feeds is being advocated at many infant welfare centres, and I fear it will bring discredit on them, for the mothers will find that babies fed in this manner do not do so well as others, and that the plan often has to be abandoned.

A fitting judgement on those who condemn infants to be fed at such long intervals on such small quantities would be for them to live the rest of their lives in a small house with a succession of such babies and listen to their pitiful cries by day and by night.

TREATMENT OF EARLY SYPHILIS.

BY

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It is necessary in treating early syphilis to have a definite system of work, and to keep records for a stated term before making any deductions.

Mercury alone can cure many cases of syphilis if persisted in for a sufficiently long time, but it is questionable if a course of less than two years is of any value at any stage of the disease.

With salvarsan and its alternatives, however, the term of active treatment can be greatly shortened, and in the very early stages of the infection the disease can be aborted, although it may be advisable to keep the patient under observation for two years.

The following observations are made from the standpoint that a positive reaction is indicative of syphilis in its secondary stage, and that the disappearance of the positive reaction for six months after treatment with mercury has been discontinued is evidence of cure. These views are easily open to controversy, but I have not seen a case of secondary syphilis—which has not had any treatment—give a negative reaction; nor have I seen a case of secondary syphilis which gave a negative reaction for six months after treatment with mercury and salvarsan was discontinued again develop a positive blood test, unless reinfectd.

In the scheme I suggest the terms "primary" and "secondary" are interpreted not according to clinical signs but according to the blood test.

Primary or Pre-positive Stage.

This stage extends from the date of infection until the blood test becomes positive. The length of this stage is variable, depending on many factors, such as the virulence of the infection, the resistance of the individual, and the delicacy of the test. I would put it at less than six weeks. In secondary syphilis the blood test has become positive though the clinical signs may not have appeared.

Course of Treatment of Primary Syphilis.

(Neokharsivan, novarsenobillon, or galyl given by intravenous injection; mercury by intramuscular.)

Day.	N., or NAB.	or Galyl.	Mercury.
First (consultation) ...	—	—	gr. j
Second	0.45 gram	0.25 gram	—
Ninth	0.45 ..	0.25 ..	gr. j
Sixteenth	0.6 ..	0.30 ..	gr. j
Twenty-third	0.6 ..	0.30 ..	gr. j
Thirtieth	0.75 ..	0.35 ..	gr. j
Thirty-seventh	0.75 ..	0.35 ..	gr. j
Forty-fourth	0.9 ..	0.40 ..	gr. j
Fifty-first	0.9 ..	0.40 ..	gr. j

N. = Neokharsivan. NAB. = Novarsenobillon.

This constitutes a course, but if the patient can stand two further weekly injections of mercury I prefer to give them. Local inunction of calomel ointment is ordered for the chancre.

At the end of five weeks potassium iodide gr. x is given three times a day for a week, and a blood test performed. If this is negative another test is performed twelve weeks later, and if this is negative the case is looked on as cured.

In many very early cases this course may be too long, but for the bulk of cases it is good, and from it satisfactory results may confidently be anticipated.

Secondary Syphilis.

In this stage it must be presumed that a profound change has taken place in the patient, and consequently the prognosis is not so good, and the treatment must be correspondingly lengthened. The course advocated for primary cases is given, and at the end of six weeks, if the blood test is negative, a second course of six weekly injections of mercury gr. j is given. This is followed by three similar courses at intervals of eight, ten, and twelve weeks. If the reaction is negative twelve weeks after the fifth course, a wait of another twelve weeks is enjoined before another test is performed. If this is negative the patient is looked on as cured. The idea by which the scheme is inspired is to nurse the case towards a six-month negative blood test.

The total length of time that a favourable case of secondary syphilis is under observation is seventy-four weeks, during which there are thirty weeks of active treatment.

The object of giving potassium iodide at the end of a definite time after the mercury is that I think it gives a better chance of getting a positive blood reaction. This may or may not be so, but I do not believe that iodide can render the reaction negative, as I have seen cases of obstinate tertiary palmar and plantar lesions in which iodide has been given for very long terms still show a strongly positive reaction.

The iodide is not given immediately the mercurial course is finished, as I have seen cases which stood the mercurial injections well develop mercurial poisoning when the iodide was given too early. The drugs used for intravenous injection have been galyl, neokharsivan and novarsenobillon. So far as I am able to judge, the results have been pretty much the same with all these preparations. Novarsenobillon is the most readily soluble and can easily be given with a syringe. Should any of the solution get into the subcutaneous tissues the pain—which is slightly delayed—is very acute. What I mean by "slightly delayed" is that the swelling caused by the effusion of the solution is noticed for some minutes before the patient complains. The subsequent reaction of the tissues is very great. The local effects of slight effusion of galyl and neokharsivan are not so great. Galyl, in the earlier days, was not readily soluble and did not appear to be always uniform in composition, that is, judging by the look of the solution, but this seems to have been remedied in the later preparations. Mercury emulsions of 10 per cent., 20 per cent., and 40 per cent. have been used.

I find that private patients bear intramuscular injections of mercury better than hospital cases, and in the latter class miners and footballers often complain so bitterly that

oral administration has to be substituted for the intramuscular method. Should a positive test be obtained after the first course, then three intravenous injections of the salvarsan alternative are given with the second course, which is called an intermediate course, but this does not interfere with the second, third, fourth, and fifth courses. This means a lengthening of the whole course of treatment by six weeks and of observation by twelve weeks.

Causes of Bad Results.

1. *Age.*—Patients contracting syphilis after the age of 40 seem to have more difficulty in becoming cured, as judged by the blood test, than younger cases.

2. The longer the delay in starting treatment after infection the more disappointing are the results, and vice versa.

3. *A Virulent Infection.*—This may be explained either by a low resistance of the individual or a high virulence of the syphilitic virus, or a combination of both. Clinically, it appears impossible to state when one is dealing with such a case. I would, however, state that it is difficult to get and keep the reaction negative in rupial syphilis.

4. Alcoholics are a class in which it is difficult to get good results, and for this reason total abstinence is always enjoined.

5. If the teeth are bad and the mouth septic, as so often happens in hospital cases, oral administration is to be preferred to the intramuscular method, because, if the gums are "touched"—a point of saturation with mercury to be aimed at—an uncontrollable stomatitis is liable to be set up.

6. There are a limited number of persons who do not stand mercury well, and in these the prognosis is not good. There are also a limited number who show idiosyncrasy to intravenous medication with arsenical compounds. I would give a more guarded prognosis in the case of secondary syphilis with idiosyncrasy to mercury than in the case of idiosyncrasy to arsenic compounds.

Suppose a man presents himself with an early chancre on the penis and states that he has exposed his wife recently to infection, it seems debatable whether the woman ought not to be given a few intravenous injections of salvarsan substitutes. I quite admit that it could never be known whether she had been saved from general infection or not, but when we consider the enormous difference between early and late treatment it seems a suggestion worthy of further thought.

THE TREATMENT OF VENEREAL DISEASE.

BY

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AND

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EVERY great war has been followed by an increase in venereal disease, so marked that on occasions it has amounted to a pestilence. Unless timely sanitary precautions are taken the greatest of all wars is unlikely to furnish an exception to the rule. We think it desirable, therefore, to give an account of an essay in preventive medicine, which, as may be judged from the following, achieved considerable success.

One of us (A. R.) has been in medical charge of a rapidly changing body of men generally numbering about 2,000. Up to the end of 1916 venereal disease was common among them in spite of numerous moral lectures and in spite of adequate provision of what is known as "early treatment"—that is, disinfection after the "contact" has returned to quarters. At the beginning of 1917 a new system was instituted. The men were instructed to disinfect themselves immediately after danger had been incurred—just as a surgeon would disinfect his hands. This procedure is what is known as prophylaxis. It differs from early treatment merely in that the man carries the disinfectant and uses it immediately. Each man who applied was given an ounce of solution of potassium permanganate (at first in a strength of 1 in 2,000, later in a strength of 1 in 1,000), a small swab of cotton-wool, and careful directions. Potassium permanganate was chosen merely because it happened to be the most accessible disinfectant. The rationale of the procedure was fully explained, so that on an emergency the man could purchase the materials from any chemist. During 1917 and 1918 about 20,000 men

passed through the station, and among them precisely seven cases of venereal disease occurred, six of gonorrhoea and one of syphilis. Of the six cases of gonorrhoea, two only were contracted by men on leave, in each case from the man's own wife. Two of the others were drunk and took no precautions. The fifth man was infected the night he arrived, and he also, being unaware of the system, took no precautions. The sixth man practised early treatment an hour after intercourse. The man who acquired syphilis also carried no disinfectant, and used it (permanganate and calomel) two hours after intercourse. He had a long prepuce, and therefore a sensitive glans, and probably did not—probably could not—rub in the calomel vigorously.

The other of us (P. H. B.) commenced prophylaxis against venereal disease in the Royal Navy in 1907. Some eighteen months ago he took over medical charge of an establishment numbering over 2,000 officers and men. The amount of venereal disease, and especially gonorrhoea, was considerable, and it was recognized that of the men who stated they had used the so-called "dreadnoughts" some 40 per cent. contracted the disease. It thus became evident that nargol jelly as a preventive was practically inert. For the past nine months the method of immediate prophylaxis by means of the application of a solution of potassium permanganate (1 in 1,000) has been employed, with results as striking as those mentioned above in the case of the soldiers. Not a single case of gonorrhoea occurred amongst those employing this method, and only one of syphilis. This latter made the application about six hours after exposure to infection, and may therefore be counted out. Unfortunately the navy is a very conservative body, and many men still persist in sticking to the "dreadnoughts." But in lectures given on the subject of prophylaxis men are gradually being convinced of the simplicity and efficacy of immediate prophylaxis. The calomel cream is still reserved for those who have omitted to carry the permanganate solution on their persons, as it seems likely that the former affords some protection, even if an hour or two has elapsed since the risk of infection has been run.

It will be seen that no man, who followed instructions and disinfected himself immediately, acquired disease. Evidently the time element is of extreme importance. Probably there is no special virtue in potassium permanganate. Any other active antiseptic would be equally effective. But permanganate is the cheapest disinfectant and the best known to the public, the least poisonous, and least irritating.

PROFLAVINE OLEATE IN THE TREATMENT OF OPEN WOUNDS.

BY

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WE desire to draw attention to the value of proflavine oleate in the treatment of certain war wounds, notably those in which an exceedingly tender raw surface of considerable extent exists, the dressing of which is productive of acute pain. Such wounds are typically seen in amputation stumps, either without flaps or with flaps left unsutured, and before the process of granulation has set in. In many of these cases superficial sloughing is going on, and the immediate edges of the adjacent skin are reddish, swollen, and indurated. These wounds are exquisitely sensitive, and the removal from them of an adherent dressing is an agonizing process to the patient. In many instances these men are very ill, and their fortitude has been broken by the combined effects of shock, haemorrhage, toxic absorption, and the suffering occasioned thereby.

The dressing with which such patients usually arrive is of gauze soaked in some antiseptic in watery solution. The water soon evaporates and the gauze adheres tightly to the raw surface. This disadvantage is obviated by the use of proflavine oleate.*

*The preparation consists of 1 per cent. proflavine oleate contained in an ointment of suitable consistence, which is made up of paraffin and calcium carbonate in about equal parts by weight. For the production of proflavine oleate in quantity sufficient for clinical use we are indebted to Messrs. Boots, Nottingham.