From my experience the test is of definite value, even although its mechanism is not understood.

I wish to thank Prof. J. W. McNee for his helpful advice and criticism, and Dr. J. B. Rennie for the results of other liver function tests in the cases under review.

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EMPLOYMENT OF THE POST-NATAL WOMAN

BY

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It seemed proper that, as a sequel to our article on "Employment of Pregnant Women in Industry" (*Journal*, 1944, **1**, 108), we should follow these cases up and show how the women return to work after their confinements. We have done this in the 90 cases of the original article, and 40 others, up to 17 months after delivery.

Return to Work after Confinement

In our last follow-up of the original patients, in Feb., 1944, only 61 of the 90 mothers could be communicated with owing to change of address, evacuation, etc. The striking fact was that only 14 out of the 61 had returned to work at all, and only 4 at the end of four months after delivery. Two returned one month after the baby was born: one of these, a multipara with several children, had to do so for financial reasons, and her own mother looked after the baby. The other had a stillborn child. Two returned at two months: one of these was a single girl whose baby had been adopted; the other had lost her baby at birth. Four returned at three months. One of these had a premature stillbirth, the second arranged for the baby to be looked after by a neighbour, the third had her baby cared for by her mother, and the fourth took her baby to a day nursery. One returned at four months, her baby being cared for at a day nursery. Two returned at five months, their babies being in the care of relatives. One returned at six months, but did not continue, as the baby fretted in her absence. Two returned at ten months, giving no reason.

Thirty-six mothers preferred to stay at home. Fifteen said that they found the housework plus caring for the baby as much as they could manage. Three stayed at home because their husbands wished them to do so. Two said they would not trust their babies to anyone else. Two mothers were evacuated because of the air raids. Two did not feel well enough to return to work. Nine mothers said they would return to work if they had somebody to care for the babies, who were all under 1 year and could not, as a rule, be accepted by local day nurseries. Eight women gave no reasons for not returning to work.

In addition to the original 90 cases we have attempted to follow up 40 other mothers who attended our clinic. Through the difficulties previously noted, we were not able to contact more than 22, and only 4 of these had returned to work. One of them lost her baby at two months and then started work; the second started work at six months, the third—a single girl—at four months, and the fourth at nine months. We analysed the reasons why patients did or did not return to work, and the following is a summary of their replies.

Fifteen stated that, with the care of the baby and housework, they had too much to do. Two said their housework and caring for the baby were as onerous as factory work. One

mother stated that she found the housework and baby even more tiring than factory work when she was pregnant. Eight mothers visited the clinic only for post-natal examination. Of these six were normal, one had a relaxed outlet, and one fairly severe haemorrhoids.

The medical officers of health of five boroughs in which the patients lived gave the following rules as to the permitted age of entry of babies to their day nurseries:

- A. Not under 6 months.
- B. From birth to 5 years. Under 3 months only in very special circumstances.
- C. One year and over.
- D. No minimum age limit, but very young babies accepted only under special circumstances.
- E. Not under 6 months except in special circumstances—i.e., unmarried mother, etc.

There appears to be no uniformity locally, and we infer that this may be general throughout the country, although the Ministry of Health issues general recommendations.

The Position in the United States

In a personal communication to one of us (L. B. B.) Dr. Barbara Hewell, Acting Director, Division of Research in Child Development, U.S. Department of Labor, made some interesting observations on the situation in America which are worth recording. Her Department has suggested that women be granted at least two months' leave ordinarily, and longer if parturition or a post-partum period has been in any way complicated (*Standards for Maternity Care and Employment of Mothers in Industry*, U.S. Department of Labor, July, 1942). As most American employers have little or no experience of female labour there is considerable variation in or complete absence of policies in different industries on the subject of maternity leave. There has been no development, on anything like the national scale we have in Great Britain, of nurseries to care for children under 2 years of age of mothers working in war industries. However, centres have been set up for the group care of children from 2 to 5 years of age and also of school age. Federal funds have been made available to communities up to approximately 60% of the cost. There has been some supervision of these by State, Health, Welfare, and Education Departments in the different States.

"The policy of the Children's Bureau is strongly against the development of group care for children under 2 years of age. They feel that the young infant needs the continuous affection and consistent care of his own mother for his best emotional, physical, and mental development. There is no adequate substitute for a mother's care or for the care of some one person who holds this relationship to the child. Regardless of how good a group centre may be as to plant, hygienic conditions, number and training of staff, there remain the danger of communicable diseases when young babies are in groups, and the strong probability that the care cannot be as individual in type, and may not meet the emotional and developmental needs of the young infant.

The man-power situation in this country has not been so urgent that mothers of young children under 2 are essential in industry. It is realized, of course, that some mothers of young babies must work. When substitute care is necessary, the Children's Bureau advises foster-home care for children under 2, as more likely to meet the needs of the individual child. This type of care—both full-time for dependent or neglected children and day-time for children of working mothers—has been considerably developed in this country. This programme is under the supervision of child-welfare agencies whose trained workers approve the homes and the qualifications of foster-parents to care for children, and who give continuing supervision of the child in the foster home, working with both the employed mother and foster-home mother for the best interests of the child. The foster home should be near the child's home, caring for only a few children, and should duplicate home life as much as possible. The working mother pays the foster mother for this care.

There are scattered day nurseries in local communities where young infants receive care under private agency auspices, but this is not an extensive development. Many mothers, of course, make their own arrangements as to care of the children."

The following quotation from an interesting paper by Dr. Charlotte Silverman (U.S. Department of Labor) gives an account of her investigation of the problem:

"*Post-natal Leave of Absence.*—Most of the establishments that did not actually discharge employees on account of pregnancy stipulated that those who were required to take leave of absence

remain away from employment for a specified period. Most of the plants set 6 weeks or 2 months as the required post-natal leave; one set it at 4 weeks, one at 4 months, and one at 6 months. Eleven required the amount of post-natal leave to be decided by a physician (the plant physician or the woman's own physician).

Extent of Return to Work After Delivery.—It was very difficult to find out how many women returned to work after childbirth. Most firms did not keep records of this type. Companies that had been employing women for many years, although they did not keep records of the number of returns, frequently were able to offer estimates. The textile mills had a very high percentage of returns. Some electrical plants also had a high percentage.

Reinstatement and Seniority.—Among the establishments that had high percentages of returns to work the question of reinstatement and seniority was probably a factor in motivating an early return. In several of these plants reinstatement and seniority privileges were effective for only 2 to 3 months after childbirth. If the period in which these privileges were effective were lengthened, women might be inclined to take longer post-natal leave."

Some British Statistics

An investigation on employment of women in industry before and after childbirth in this country carried out during 1940-2 by the Industrial Welfare Society gives the following general information. Twenty-six firms were approached; they all permit a return to work, but the period after pregnancy varies as follows:

At a minimum of 4 weeks	..	..	..	..	2 firms
" " 5 "	..	..	..	..	3 "
" " 6 "	..	..	..	..	6 "
" " 8 "	..	..	..	..	7 "
" " 12 "	..	..	..	..	4 "
On application at any time	..	..	..	..	1 firm
At any time a vacancy occurs	..	..	..	..	1 "
When fit to return	..	..	..	..	1 "
Left to opinion of welfare officer	..	..	..	..	1 "

The statistics of 29 firms who keep records of their pregnant workers gave the following figures:

Firm	Pregnancies	Returned to Work	Firm	Pregnancies	Returned to Work
A	12	1	P	6	4
B	20	2	Q	122	8
C	37	1	R	13	4
D	11	2	S	25	4
E	50	1	T	57	2
F	13	10	U	17	3
G	21	2	V	17	3
H	21	6	W	57	7
I	24	1	X	17	3
J	9	1	Y	24	3
K	3	1	Z	1	1
L	48	3	AA	1	1
M	12	3	BA	4	1
N	11	2	CA	9	2
O	4	4			
				666	85

One firm commented: "The great difficulty of mothers returning to work is the lack of day nurseries. The unmarried mothers, unless they have sympathetic parents, are forced to have their babies adopted, often against their will. Many married women would like to return to work if there were facilities for these very young babies." Another stated: "Two girls returned to work after one month—both through financial difficulties." None of the firms quoted had an antenatal clinic of their own.

Summary of Conclusions

Surprisingly few mothers return to work after confinement. In our own series only 18 out of 83 had returned to any work, excluding housewife duties, up to 17 months after confinement.

Death of the baby or financial matters were the main reasons given for the return to paid employment.

From our experience of the normal working mother we conclude that six months is a reasonable time after pregnancy for return to work to be considered.

We are grateful to Mr. R. R. Hyde of the Industrial Welfare Society, Dr. Katherine Bain, and Dr. Barbara Ann Hewell of the Children's Bureau, U.S. Department of Labor, for their co-operation, and to Sister Harwood of our own works antenatal clinic.

S. Solomon, M. Kaslik, and N. Kiven (*Ann. intern. Med.*, 1944, 21, 639) record three cases of periarteritis nodosa in which the condition was diagnosed during life and confirmed at necropsy. The diagnosis should be considered in patients with prolonged fever of unknown origin who have irregular or baffling symptoms referable to many parts of the body. A biopsy will usually reveal characteristic changes in the smaller arteries. The disease is probably an allergic reaction to many different antigens. There is no specific treatment.

Medical Memoranda

A Diagnostic Problem: An Unusual Case of Hepatitis

The following case is interesting in view of the prevalence of hepatitis. A girl aged 13 months was admitted to the hospital on Sept. 6 as a case of notified cerebrospinal fever (post-basis). Except for occasional "snuffles" the history disclosed nothing abnormal until two weeks before admission. She was then said to have had an attack of bronchopneumonia, treated for four days with 8 g. of sulphathiazole. Subsequently the child had been fretful, and for two days before admission there had been neck rigidity, head retraction, and persistent vomiting.

CLINICAL HISTORY

On examination the child's condition seemed satisfactory—T. 97°, P. 120, R. 26—but she was irritable and had a stiff neck with head retraction; Kernig's sign and Brudzinski's reflexes were negative. The gums were inflamed owing to teething, and the liver was palpable two fingerbreadths below the right costal margin, the upper limit of superficial dullness being percussed at the fifth interspace. Lumbar puncture was performed. The fluid was clear and under normal pressure, and contained "2 leucocytes per c.mm., protein 10 mg., globulin 0, chlorides 770 mg., sugar rather in excess. W.R. negative."

During the next three days the (presumable) meningism disappeared and vomiting ceased. The stools remained normal throughout the illness, while the urine contained a trace of albumin. On Sept. 10 a swelling appeared in the right renal angle. It was hard, deep-seated, immobile, but not attached to adjacent bony structures, and was associated with slight oedema of the overlying skin. On Sept. 11 the lump was larger and softer, but its nature remained obscure. At 4.30 p.m. precisely that afternoon the child screamed violently, became cyanosed, and appeared to be in pain. On examination her colour was ghastly, her extremities cold, pulse imperceptible, temperature subnormal, and respirations about 80 per minute. She was gravely ill, and the dramatic suddenness of the change suggested a catastrophe such as an internal haemorrhage or spontaneous pneumothorax. No thoracic signs were elicited, but the liver was over five fingerbreadths below the right costal margin, while the upper limit of superficial dullness was level with the sixth rib on percussion.

Surgical advice was sought, and Mr. Kennedy of Plymouth kindly saw the child. Nevertheless, no diagnosis was made, and the only course available was treatment for shock on the usual lines. By 8.30 p.m. her condition had improved slightly—T. 98.4°, P. 160, R. 88—and the liver was only three fingerbreadths below the costal margin, but at 10.35 p.m. she collapsed and died, her malady undiagnosed.

POST-MORTEM EXAMINATION

The necropsy was performed by Dr. M. R. Thomas, with the kind permission of Dr. Wordley. Externally there were no distinctive marks and the lumbar swelling noted during life had disappeared. About half a pint of haemorrhagic fluid was found in the right pleural cavity. Otherwise, apart from petechial haemorrhages on the serous surfaces and a small pericardial effusion, the heart and lungs seemed normal. In the abdomen half a pint of bile-stained ascites was found. The liver was tremendously enlarged and engorged, and the cut surface was yellow. The hepatic artery and biliary system appeared normal, as also the duodenum and other viscera, though the right kidney was displaced backward into the loin by the enlarged liver, thus accounting for the mysterious lumbar swelling.

Histologically, the liver showed generalized parenchymatous necrosis, particularly marked in the portal zones. There was neither hyperplasia of liver cells nor bile-duct proliferation. The organ was stained and examined for spirochaetes, but none was seen, nor was evidence of syphilis found. Other organs showed no special changes except scattered petechial haemorrhages.

DISCUSSION

It is unfortunate that investigations, including blood counts and urine analysis, were not done, but precise indications were wanting until too late. First, the cause of the meningism remains obscure. It might have been due to the hepatic lesion or even to "teething." It should be remembered that occasionally meningism is a marked feature of intolerance to sulphamide therapy, particularly in cerebrospinal fever—a highly improbable cause in this instance, however, eight days later. Alternatively Weil's disease with a meningeal onset merits consideration, but it is unlikely that such a case would have been apyrexial throughout, nor were any spirochaetes demonstrated.

The puzzling lumbar swelling received satisfactory explanation at necropsy. More difficult of explanation was the sudden and catastrophic deterioration in the child's condition, with apparent hepatic displacement and enlargement. The rapid accumulation of a haemorrhagic pleural effusion—singular indeed in respect of the complete absence of physical signs in the chest—was probably largely responsible. Sudden cardiac