dipped into the urine. When 5 ml. of this was applied to a 3-in. × 3-in. (7.5-cm. × 7.5-
cm.) doubled piece of towel, a much reduced colour was observed on testing, and after an hour several skilled observers recorded a negative or doubtful reaction. The cellulose napkins, when used in the same manner, gave a definite positive even after two hours. These findings were consistent on four separate occasions. Quantitative estimation suggested some instability on the towel napkins associated with urine of high pH, but results varied and difficulty with turbidity from traces of detergent left from washing were experienced. However, it was found that the quantity of urine taken up by a Phenistix was much less from towel-type napkins than from cellulose or by direct dipping, as shown by the increase in weight. Average of 10 tests: dipping 29.4 mg., cellulose 39.5 mg., and towel 16.5 mg.

We suggest that this reduced uptake may be responsible for a lowering of sensitivity when Phenistix is used to detect phenylpyruvic acid on towelling napkins, especially when the urine has been given time to spread over a larger area from the original point of application. Perhaps the use of cellulose napkins would increase the detection rate of phenylketonuria to an acceptable level, as they appear to provide a more favourable material for an adequate transfer of urine to Phenistix.

—We are, etc.,

D. A. BAXTER.
M. E. YORK-MOORE.
Royal Eastern Counties Hospital,
Colchester, Essex.

Mercury Perchloride in Surgery

Sir,—We were interested in the letter by Mr. D. H. Patey (28 October, p. 238) suggesting that an accurate evaluation be made of the use of mercury perchloride in eradicating malignant growths in operation wounds. Like Mr. Patey, we too had not found any evidence of this having been done, and began some experiments some nine months ago. It is too early to make a complete evaluation, but our preliminary results using Tum sarcoma cells in C3H mice are encouraging and are summarized below.

<table>
<thead>
<tr>
<th>Irrigating Solution</th>
<th>Saline</th>
<th>Hypochlorite</th>
<th>0.1% Mercury Perchloride</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of mice used</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of mice in which tumours grew</td>
<td>98</td>
<td>82</td>
<td>47</td>
</tr>
<tr>
<td>Percentage in which tumours grew</td>
<td>88</td>
<td>40</td>
<td>11</td>
</tr>
</tbody>
</table>

In our earlier experiments we found that, using carcinoma cells under similar experimental conditions, cetrimide solution was more effective than other agents tested in preventing growth of malignant cells in operation wounds. The other agents tested included: nitrogen mustard solution and hypochlorite solution.

In view of the favourable early results using mercury perchloride, we are currently considering the effects of mercury perchloride solution with other irrigating solutions, including 1% cetrimide solution, in experi-

mental wounds seeded with carcinoma, sarcoma, and melanoma cells.—We are, etc.,

GEOFFREY R. GIBSON.
FREDERICK O. STEPHENS.

Department of Surgery,
University of Sydney,
Sydney, Australia.

REFERENCES

Oculogyric Crisis after Phenothiazines

Sir,—A nurse, aged 21, was recently admitted to this hospital with a severe oculogyric crisis following an injection of Fenatazine (phenazepam) 10 mg. given for unexplained vomiting. She also complained of a choking sensation, had severe trismus, and presented a dramatic clinical picture.

In view of the fact that this appeared to be an extrapyramidal syndrome, as described in the manufacturer's literature, she was given atropine (0.6 mg.) as a potent anti-Parkinsonian drug. Pethidine (50 mg.) was also given. This was followed by a complete remission of symptoms within 10 minutes. There was a minor recurrence two hours later and she was given a second dose of atropine (0.6 mg.). After this she had no further symptoms.

Although this complication of Fenatazine therapy is mentioned in the manufacturer's literature there is no reference to treatment. This particular patient gave a history four months before of taking phenazepam tab. mg. b.d. for days without any adverse effect. This raises the possibility that the patient had been sensitized by the earlier administration of the drug, but such sensitization does not appear to have been previously described.—We are, etc.,

HEATHERWOOD HOSPITAL,
ASHTON, BERKS.

Safety of Dimethoate Insecticide

Sir,—The organophosphate anticholinesterase insecticide dimethoate is widely used in crop protection in the control of insects on food crops. At harvest some recently treated crops contain a small residue of dimethoate, from 0.05 up to 1 p.p.m. The safety of such residues to consumers of the crops is clearly an important matter.

Toxicological studies conducted before marketing showed that dimethoate intake rates as high as 0.04 mg./kg. body weight per day produced no detectable effect on whole-blood cholinesterase (ChE) values in rats (trial duration 6–12 months) or in human volunteers (duration one month). Individual human subjects were also given 0.13 and 0.26 mg./kg./day respectively for 21 days without detectable effect.1 A special F.A.O./W.H.O. committee responsible for reviewing safe levels of pesticides in food was naturally reluctant to accept data on individual subjects, and recommended the maximum allowable intake rate for dimethoate as 0.004 mg./kg./day.2 This is the intake rate shown harmless to laboratory but is only a factor of 10 of the 0.4 mg./kg./day that we have recommended for dimethoate dosage started. ChE in whole blood was measured by the electrochemical method of Michel3 and its depression monitored. The first response to dimethoate. Activity in red cells and plasma were also determined separately. The study was under close medical supervision, and inquiry was also made for any effects other than ChE depression, though none was detected.

The Table summarizes the experimental plan and results of the study. ChE values are expressed as "cholinesterase units" (UHr./br. × 100). Groups D and E were made up of previously sensitized groups A and B, and were included to confirm at higher dosage levels the response seen in Group C.

The results show that no significant change occurred in Groups A and B. ChE values in Group C began to show a slow downward trend by day 20, and this continued to the end of the test at 57 days. Groups D and E showed the same effects at an earlier stage, and a somewhat faster rate of decline. The rate of change and effects other than ChE depression, closely paralleled those of whole-blood ChE in Groups C and D. No localized gastrointestinal or other clinical effects occurred in any group.

From this study we concluded that dimethoate ingestion by humans at the rate of 0.4 mg./kg./day or above will cause a slow decrease in whole-blood ChE activity, but that at 0.2 mg./kg./day and below such an effect is most unlikely to occur. Eight subjects were studied at a mean intake rate of 0.2 mg./kg./day. Their range of ChE activity before ingestion was 108–148 units (mean ±2 standard deviations) and after 39 days was 102–146 units.

It is therefore suggested that the experimentally adduced "no-effect level" for dimethoate ingestion by small groups of humans may now safely be regarded as a safe margin, which when reduced by a safety factor of 10, would imply an acceptable daily intake rate of 0.006 mg./kg./day.
of 0.02 mg./kg./day. This is equivalent to the daily consumption by 60-kg. humans of 1 kg. of foods containing 1.2 p.p.m. di-
methoate residue. It bears a safety factor of at least 10 before the slightest effect on blood ChE activity would occur, and (from animal studies) a safety factor of about 400 before the first sign of toxicity would arise. The full details of this study will be reported elsewhere. It is hoped that the findings may extend the permissible usage of an important and safe insecticide.

Grateful acknowledgement is made to the 36 volunteers concerned and to S. Montecatini (Milan) for providing the necessary materials.

—We are, etc.,

E. F. EDSON.

K. H. JONES.

W. A. WATSON.

Chesterford Park Research Station (Research Centre of Plasmon Pest Control Ltd.), Saffron Walden, Essex.

REFERENCES


Psychotropic Drugs

SIR,—As the co-author of the first British paper on phenelzine1 I should like to comment on the views of Dr. P. Leyburn and his colleagues (18 November, p. 417).

In designing that first trial I was deeply concerned about the dangers of prescribing a placebo for depressed patients, since suicide is a possible outcome of imperfectly treated depressed patients. That risk was taken in the trial described but was not taken in any subsequent trial. The M.R.C. trial1 expected a large number of investigators to take a similar risk, and this is one reason why I did not take part in the M.R.C. trial. In the design of any further trial one would hope that the M.R.C. would take the advice of people like Dr. P. J. Dally (28 October, p. 235) who are engaged in active clinical psychiatry. The previous trial was con-
cerned with a type of patient who is found only in the pages of the older history books on psychiatry.

One of the hidden advances that mono-
amine oxidase inhibitor drugs and tricyclic compounds have given us has been the dis-
covery of hitherto unsuspected varieties of depression. The important task now is to marry symptomatology up with treatment. No single antidepressant drug is a specific cure for all varieties of depression.

It is time that clinicians ceased to be afraid of the dangers of these drugs. I have seen one death from them in eight years of use, but I have seen several deaths from suicide in that period. Yet the deaths from suicide appear to be fewer than they were before these treatments were available. It would be of value for investigators to use the suicide rate as an index of success or failure in treatment.

In conclusion, it is important to remember that the elimination of suicide in depression is the main goal of all types of treatment. The suicide rate is still comparable to the death rate from road accidents, but the research and publicity directed towards its elimination compare very un favourably with the efforts of the Ministry of Transport in dealing with its particular problem.—I am, etc.,

Cane Hill Hospital, JOHN T. HUTCHINSON, Coulsdon, Surrey.

REFERENCES


Injury from High-speed Drills

SIR,—A serious ophthalmological hazard exists to dental practitioners from the new high-speed drills used for cavity preparation in teeth. Particles of filling or other dental debris may be projected at great speed into the orbital region of the operator, and cause damage to the eye.

In a recent case a fragment of tooth sub-
stance, propelled in this way, caused a severe corneal abrasion, which prevented the dental surgeon from working for a considerable period of time.

The necessity to wear some form of eye protection, such as goggles or spectacles, while using these drills cannot be too strongly stressed.—I am, etc.,

N. E. A. RENNE.

Eastman Dental Hospital, London W.C.1.

North America Interview Board

SIR,—I would be grateful to be allowed to reply to the letters of Dr. J. Stanners and of Dr. C. D. H. Elton and Mr. I. W. M. Wright (18 November, p. 416).

The Interview Board's tour was arranged to meet the requests for interviews received in answer to the Ministry's advertisement of our visit published in the B.M.J., and other journals in July and August. Such requests were still reaching me when the Board left England on 30 September. At this time we had already invited 150 doctors to meet us for discussions of up to one hour each. It was possible to make only a few adjustments to this programme, because it was already very full and because the team's travelling schedule had to be adhered to. Every effort was made to accommodate doctors who approached the team at short notice, and where this was not possible informal meetings with individual members of the Board were arranged. I am sorry if some British doctors in Alberta were unaware of our visit before receiving a letter from the British Head of Post in Edmonton, but this, as I have said, was not the first intimation of our visit.

The Board would have gladly visited Edmonton if a sufficient number of doctors there had asked to meet us, but the centres chosen were necessarily locations which suited the convenience of the majority of doctors who replied to the Board's appeal and who contacted us in advance.

We sincerely regret that some of the doctors who approached us at very short notice could not be seen; this happened only where the Board's time was entirely taken up with appointments already arranged and confirmed.—I am, etc.,

R. H. BARRETT,

Chairman, Interview Board, Ministry of Health.

London S.E.I.