

## MAGNESIUM AS A SEDATIVE.\*

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It was shown by Meltzer and Auer in 1905 that the primary effect of magnesium upon the nerve cells is that of paralysis without any preceding excitation. The effect seemed to be exclusively of an inhibitory character. They injected subcutaneously into rabbits varying amounts of a 25 per cent solution of magnesium sulphate. The effects depended on the size of the dose and varied from no effect to complete muscular relaxation with loss of cutaneous and corneal reflexes. Larger doses caused death by paralysis of the respiratory center. Calcium chloride even in small doses when given intravenously overcomes the inhibitory effect of the magnesium.

It would seem that here we might have a good inhibitory agent and that it might be of value in excited states. Also we know the antidote which is easily obtained and prompt in its action.

For the past few months magnesium sulphate has been used at the Warren State Hospital as a sedative. The salt was recrystallized twice and was free from calcium, sodium and potassium. It was administered hypodermatically in doses of one or two c. c. of a 25 or 50 per cent sterilized solution. There were no local effects, though one patient complained of a burning sensation at the site of injection.

In all more than 250 doses have been given to 50 patients. Half of these were agitated depressions; seven were dementia præcox cases; four were paretics, and there were one or two each of epilepsy, senility, organic dementia and hysteria. There was one actively manic case. All were noisy, talkative, very restless or resistive. In short, all were more or less agitated.

The result in nearly all cases was the same. The patient relaxed and slept from four to six hours. Some patients did not react at

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all. One woman, an agitated depression, received three doses of two c. c. of a 50 per cent solution of the salt at half hour intervals. There was no apparent effect. This was repeated the following night with the same result. One actively manic patient received one cc. of the 50 per cent solution every three hours for four doses. There was no noticeable effect. Of the total 250 doses, 30 were without effect.

The most marked effect was obtained in simple agitated depressions. There has been no opportunity to give the salt to a sufficiently large number of very active, excited patients to know whether it is of value or not.