Recently both peach-coloured and ordinary blankets were tested before and after washing. The ordinary blankets before washing were quite dirty, having a mean count for the 20 tested of approximately 200. Two of them gave growths of *Staph. aureus*, both strains being resistant to penicillin and belonging to group III.

The 27 peach blankets tested were cleaner but varied in count from 15 to 200. The mean count was 70, but three gave growths of penicillin-resistant *Staph. aureus*, all belonging to group III. After washing the mean counts were respectively 31 and 14.

Since the practice of washing the peach blankets after each patient was discontinued the situation had deteriorated, indicating that a bactericidal concentration of cirrasol had not been built up or maintained in the blankets.

B ward was again tested recently (Frisby, 1957), and *Staph. aureus* was isolated with ease from the following 40 out of 48 situations:

Sister's desk	Power point
Case note trolley	Armchairs (4)
X-ray viewing-box	Bed tables (4)
Notice board	Ward wash-basins (staff) (2)
Cupboard top	Nail brushes (staff) (2)
Anglepoise lamp	Fluids trolley
Floor (5 different areas)	Kitchen sink
Table	Kitchen tap
Bed locker	Kitchen floor
Bed rails (6 different ones)	Suicide-room table
Curtain rails (2)	Suicide-room floor

All these strains were resistant to penicillin and all but one belonged to group III. This was similar to the findings on three previous occasions over the past year when the ward was swabbed.

The air of B ward was also sampled by means of a slit-sampler. This was done on four occasions, once while dressings were being done. On each occasion all samples yielded *Staph. aureus*, whatever the time of day and condition of ventilation. For the dressings samples, the machine was placed next to the dressings trolley and 4 ft. (1.2 m.) from the wounds. All the strains isolated were resistant to penicillin and belonged to group III.

As a comparison four other wards were also swabbed. Out of 48 swabs from M ward, 38 were positive for *Staph. aureus*; all strains were resistant to penicillin and most of them belonged to group III. L ward, A ward, and LM ward gave a similar picture; the strains isolated were from situations similar to those in B ward. Thus group III strains are seen to be generalized throughout the hospital.

Discussion

Bourdillon and Colebrook (1946) said that, whilst a freshly laundered gown or sheet is almost sterile, "all woollen or flannel objects must be regarded as infected." Barnard (1952), in a review of the literature, noted that the majority of freshly laundered blankets contained *Staph. aureus*.

The investigation described above confirmed the findings of these workers. The woollen blanket is a bad piece of hospital equipment. To make it suitable for use it needs to be specially laundered, and this more often than may be physically possible in probably most hospital laundries.

For this reason blankets made of terylene are being tried here. These are boiled like sheets, and the resulting counts of the clean blankets are under 20 with no *Staph. aureus*. They have the added advantage that they produce very little fluff, and they have stood up to an average of 14 boilings very well. They are light and warm, two only being required for each patient. Of course, boiling does not leave a protective deposit on the blankets, and it might be advisable to rinse them in cirrasol after boiling to ensure maintenance of a low bacterial count.

However, if a blanket which can be boiled is obtained, there must still be adequate facilities for washing each set after every patient. This is not only aesthetically desirable but bacteriologically necessary.

The evidence supporting the latter statement is overwhelming. The hospital staphylococcus must be attacked before it reaches the patient (Howie, 1956), and one of the points of attack must be the blanket.

Summary

Hospital blankets, unless specially laundered, are bacteriologically contaminated and potentially dangerous.

Provided they can be washed frequently—for example, after every patient—the lissapol-cirrasol technique is adequate to keep ordinary woollen blankets clean.

Some laundries may not be equipped to deal with the increased washing required for the technique to give satisfactory results.

Blankets of materials other than wool—for example, terylene—may help in the solution of this problem, although there must still be adequate facilities for providing each patient with a clean set of blankets.

I thank Miss M. Cossey (assistant matron), Miss M. McFall (laundry superintendent), and Sister R. M. Cole, of the Radcliffe Infirmary, Oxford, for their kind assistance with this investigation.

ADDENDUM.—Since this article went to press, Matthias *et al.* (1957) reported an analysis of nasal and faecal carriers of *Staph. aureus* among hospital patients. The figures shown above are similar to the corresponding ones given by these authors, and of the 37 combined nasal and rectal carriers shown in Table III 26 were of the same phage type in both situations, 9 were different, and 2 were untypable.

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EUPHORANT EFFECTS OF "PRELUDIN"

BY

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Amphetamine, methylamphetamine hydrochloride, and other euphoriant drugs are commonly used for their anorexic properties in the treatment of obesity. It is therefore not surprising that a drug introduced for its anorexic properties should be found to have euphoriant and stimulant effects. "Preludin" (2-phenyl-3-methyl-tetrahydro-1,4-oxazine hydrochloride) is available without prescription in this country, and is claimed to assist weight reduction. Bethell (1957) reported a case of addiction to this drug in an unstable psychopathic personality. The cases reported here do not include a single case of addiction, although a patient presented at the casualty department of Charing Cross Hospital apparently suffering from addiction to preludin.

In a careful study of the effects of amphetamine, Harris, Ivy, and Searle (1947) concluded that the anorexic action of this drug occurred at two levels: (1) a central and cortical centre, and (2) a "hunger centre" in the hypothalamus. There appeared to be reduced intake of food and loss of weight by alteration of appetite and of the attitude to food, and by diminution of the subjective sensations of hunger.

Wendt and Caspar (1954), in a controlled trial of preludin in 18 subjects, concluded that it was superior to caffeine in promoting the impetus of trends of thought, relaxation, and ease. The pharmacological effect lasted five hours.

Reporting on the anorexic effects of preludin, Berneike (1954) and Kujat and Mühl (1955) found increased mental activity and alertness. The stimulant effect of the drug has also been examined by Spiegelberg (1954) in 28 normal and 135 neuropsychiatric cases. He found a strong stimulant effect with removal or delayed onset of the signs of fatigue and liberation from psychic tension. Favourable effects were noted in cases of depression, convalescence after insulin therapy, certain psychopathic reactions, "psychasthenic failure," conditions with vegetative dystonia, and organic illnesses caused by brain conditions with stimulus decreases.

Lennartz and Maass (1955) claim improvement in cases of Parkinson's disease and brain contusion, where the effect of preludin was said to be "vitalizing rather than euphoriant." These reports indicate a euphoriant similar to amphetamine and its derivatives.

Amphetamine has been used since 1938 as a stimulant drug in psychiatry and has found widespread application. Sargent and Slater (1954), in a survey of stimulant drugs in current psychiatric use, have commented on the now well-known euphoriant effect of amphetamine, dexamphetamine sulphate, and methylamphetamine hydrochloride, and discussed the indications and dosage to be used.

Method

The effect of preludin as a euphoriant was investigated in 10 student volunteers at Charing Cross Hospital. Palpitations, anorexia, relative insomnia, perspiration, restlessness, irritability, and difficulty in concentration were reported. One student noticed a sense of compulsion to activity. On withdrawal, increased hunger, depression, and fatigue occurred. The dosage was 25 mg. and later 50 mg., taken as a morning dose. The subjects were not aware of the nature of the drug, although the technique of morning administration may have suggested that it was similar to amphetamine.

Following this trial in normal subjects, a clinical trial was conducted in the psychiatric out-patient departments of four general hospitals. 147 patients given preludin have been followed up. The initial dosage was 25 mg. at 8 a.m. and noon, as the trial with student volunteers indicated that insomnia was likely to occur. This was not a controlled trial, and the "blank" and "double blank" technique involving the use of placebo tablets was not used. The drug was given as a variant of dexamphetamine, methylamphetamine, and combinations of these drugs with amylobarbitone. The case material consisted of mild depressive and psychoneurotic conditions. Some of the patients were considered candidates for E.C.T., and were to that extent a selected group. No instruction to reduce food intake was given.

Results

In addition to anorexia, some patients complained of excitement, palpitations, insomnia, trembling, dryness of the mouth, abdominal pain, and subjective sensations of increased energy. Mild depersonalization also occurred. Elevation of mood, increased mental activity, and concentration were reported by some subjects. In some a mild aggressive reaction was experienced. In two cases appetite was increased. Two further patients reported symptoms of hunger, and in one case there was a definite increase in weight. It did not appear that weight reduction was a significant finding, as there was little voluntary reduction of food intake. The patient in whom weight increase occurred also improved in mental condition, but Shorvon

and Richardson (1949) recorded several cases in which weight gain was associated with depression. Their depressive cases increased their food intake (and so gained weight) in a search for more pleasant sensations and as a substitute for normal sensations of enjoyment.

No patient suffering from severe psychosis was given preludin. E.C.T. had been given to some patients in this series. Many had been given other stimulants, including dexamphetamine. Some had been given sedation by barbiturates and the phenothiazine derivatives before receiving preludin. Two cases of Parkinson's disease with concomitant depression appeared to be made worse; this is contrary to the findings of Lennartz and Maass (1955).

Of the 147 patients, 87 (59.2%) appeared to be improved, 17 (11.5%) were unchanged, and 43 (29.3%) complained of symptoms which indicated that the drug had an adverse effect. The breakdown of these figures into symptom groups shows that cases of depression were significantly improved (see Table); this applied to patients who were given the drug

Results of Treatment

	Depressive State			Anxiety State	Hysteria	Obsessional State	Personality Disorders
	Preludin Only	Preludin Post-E.C.T.	Total				
Improved	29	25	54	3	17	9	4
Unchanged	7	2	9	—	7	—	1
Worse	10	11	21	8	9	4	1

after treatment by E.C.T. had failed to secure total remission as well as to those who did not require E.C.T. The figures obtained in the two groups show a close similarity. Of 33 patients suffering from hysteria, 17 were improved. The stimulant effect of preludin produced an increase of tension in the patients diagnosed as suffering from anxiety state, as was to be expected. Surprisingly, obsessional patients were improved in 9 of the 13 cases treated; but this total is small, and many of the cases had depressive features. Of the personality disorders, four cases in a small series of six were improved. A similar response is seen in the treatment of such cases with amphetamine.

Summary and Conclusions

A report of a clinical trial of preludin is given. The effects of the drug in normal volunteers and in psychoneurotic patients are reported. The drug appears to be pharmacologically active and similar to the amphetamines in its anorexic and euphoriant effects.

This trial seems to show that the effects of preludin are similar to those of amphetamine. The impression was gained that the euphoriant and stimulant effects were more powerful than those produced by 5 mg. of amphetamine twice daily. This finding differs from that of Bethell (1957), who reported that many more preludin tablets were needed to obtain the same stimulant effect as a few of dexamphetamine. The percentage of cases improved was higher than that to be expected from a placebo effect, and there seems to be no doubt that the drug is pharmacologically active. It would appear appropriate that this preparation should be classified under the same pharmaceutical schedule as the amphetamines.

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