

would gain at the expense of the private nurse.

The Journal suggests an increased allowance for washing—as the present charge of 2/6 only covers half the cost—also a comprehensive fee to embrace suburban tram, train and cab fares.

When all is said and done, we are faced with the fact that in the United States of America only, are private nurses fees calculated on a schedule which not only provides a *living* but a *saving* wage. In this country there is still a prejudice against nursing as a livelihood—as against nursing as charity. A few more Acts of Parliament such as the National Insurance Act, and private nursing will be taxed out of existence.

WHAT NURSES SHOULD KNOW, ABOUT TREATMENT WITH SERUMS, VACCINES, TOXINS, AND PHYLACOGENS.*

By MISS EMMA NIXON

(San Francisco County Association).

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PHYLACOGEN.

I will now take up the consideration of the phylacogen, in the clinical application of which I have had the most experience, and because these should be of greater interest, inasmuch as it is in the clinical application of these remedies that the services of the professional nurse are more often required than with any other bacterial preparation.

These preparations were originated by Dr. A. F. Schafer, of Bakersfield, California.

Definition.—The term phylacogen means a guard creator, and may be, as in the case of these phylacogens, inert in themselves, but which, on injection into animals, cause defensive products, probably proteids, to develop.

The principle upon which the use of these phylacogens is founded is the theory of multiple infections. This principle is supported by an extraordinary practical experience, supplemented by exhaustive and long-continued laboratory and clinical experimental work by Dr. Schafer.

Three facts are set forth by Dr. Schafer as the basis of this new therapy :

First. Practically all acute and many of the chronic diseases are caused by the metabolic products of bacteria.

Second. The human subject is the host of micro-organisms that are pathologically latent, but capable of setting up a disease process under certain conditions.

Third. The growth of the infecting micro-organisms can be arrested and their effects neutralized by products derived from their development in artificial culture media.

Safety. The degree of toxicity of the phylacogens has been carefully ascertained by means of experiments on animals. The results of these tests indicate that the minimum lethal dose for a 150 pound man is 645 c.c., an amount many times greater than the maximum prescribed dose of these preparations.

As these results apply to healthy animals they cannot serve as a guide when using the phylacogens specifically, as in the treatment of typhoid fever or tuberculosis, when the size of the initial dose must be carefully considered and always be comparatively minute.

Deterioration. These products deteriorate very slowly, and in so doing simply become inactive, they do not develop any poisonous properties.

Indications. The phylacogens are indicated in the following conditions, in all of which there is clinical evidence supporting the curative value of the remedies :

Rheumatism, surgical infections, erysipelas, sequelæ of gonorrheal infections, pneumonia, typhoid fever, localized tubercular disease.

Others could be included in this list, but I wish to be conservative. This gives some idea of the wide range of use for these agents and the great possibility of nurses having to meet with them in the field of their professional endeavour.

Administration. Phylacogens are given subcutaneously for the most part, but may be given intravenously by those experienced in intravenous work. If subcutaneous method is used, the injection should be given under the skin and not beneath the superficial fascia, or muscle, the point of injection is preferably one where there is considerable loose skin, as at the insertion of the deltoid muscle, or in the back between the scapulæ.

The interval of doses is from eight to forty-eight hours, depending upon the judgment of physician.

The average dose is from 5 to 20 c.c. subcutaneously. One-half to 5 c.c. intravenously. More, if the judgment of the physician decides it necessary.

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