

The Nova Scotia Medical Bulletin

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Basic Principles in Diabetes Mellitus: Diagnosis

M. M. HOFFMAN,

Halifax

ON first consideration, it would seem unnecessary to include detailed comments on diagnosis in a discussion of diabetes mellitus, since in its classic form this disease presents an easily recognized clinical picture, as well as being one of the few diseases whose presence can be readily confirmed by simple laboratory procedures. The experiences of the last few years clearly indicate the need for reexamination of the criteria by which this disease has been diagnosed. In the first place, diabetes Detection Drives conducted in many towns and cities of the United States and Canada have revealed that for every known diabetic there is at least one individual with diabetes mellitus in whom the disease had not been recognized previously. Most of these newly discovered diabetic patients have been asymptomatic, and these surveys have helped to establish the fact that diabetes mellitus may exist in an asymptomatic form for as long as ten years. Still other surveys (1) have shown that in adult diabetics observed in Hospitals only 35% had the classic symptoms of this condition as presenting complaints at the time of diagnosis. Hence, it is obvious that if we rely only on the classic symptoms of the disease for diagnosis the majority of patients with active diabetes mellitus will not be recognized. One might ask if it is important to diagnose this condition in its asymptomatic or early stage. Although a definite answer cannot be given, the available evidence strongly suggests that it is of importance. Perhaps the best reason for the necessity of diagnosing this disease as early as possible is the poor results now being obtained with the standard method of treatment with diet and insulin. It would appear that in spite of such treatment the majority of patients with diabetes eventually develop the premature vascular degeneration which is its most important complication. Since it is the duration of the disease rather than its severity which determines the incidence of degenerative changes, as indicated by the fact that not infrequently such a complication may be the presenting feature of diabetes, it is likely that the sooner treatment begins the better will be the chance of avoiding them. It should be noted, however, that some physicians are not in agreement with this concept since it is their belief that control of the hyperglycemia and glycosuria, which is what is accomplished by diet and insulin, will not prevent these premature degenerative changes. Since these are the only methods of treatment available to us, it seems logical that we use them under the most favourable circumstances in an effort to improve the results of the long-term management of the diabetic.

Clinical diagnosis—Although the majority of patients in the early stages of diabetes mellitus may not have any of the classic symptoms of this disease, it is still true that clinical recognition of the presence of suggestive features of the disease remains the most important single step in its diagnosis. In a study regarding the diagnosis of diabetes mellitus currently being conducted in the Victoria General Hospital, it has been learned that in approxi-

mately 35% of a small group of diabetic patients the diagnosis could have been made or suspected some four months to four years before the diagnosis was actually established. The failure to suspect the presence of diabetes in these patients earlier was due to three main causes. First, the failure to appreciate that in less than 40% of patients diabetes mellitus may be present in the absence of the characteristic symptoms and signs. Secondly, the failure to elicit suggestive symptoms and signs of the disease, when they were present, in the functional enquiry of patients who come to the physician with non-specific complaints such as fatigue and lassitude or because of some unrelated concurrent disease. And, thirdly, the failure to recognize the significance of a complaint which could be due to diabetes mellitus. Early diagnosis on clinical grounds alone will be successful if the physician keeps the disease constantly in mind and seeks it in every likely individual. An example of the value of this approach is provided by a recent experience of an interne in the Victoria General Hospital. While he was attending a patient during the time her son was visiting her, the boy asked for a glass of water mentioning that he was very thirsty. The interne, alert to the suggestive symptoms of diabetes mellitus, asked how much water the boy was drinking each day, and when he heard that the boy had an excessive fluid intake, he recommended that he see his family physician. The latter demonstrated the presence of moderate glycosuria and diabetes was thus diagnosed in its early state. Had the interne not been conscious of diabetic symptomatology he would only have directed this boy to the drinking fountain!

The symptoms which should create suspicion of diabetes are:

1. **Polyuria** which is due to the necessity of providing an increased volume of urine to make possible the excretion of large amounts of glucose. The voiding of a large volume of pale urine of high specific gravity is one of the classical characteristics of diabetes mellitus. The polyuria may manifest itself as nocturia, or as enuresis in the diabetic child.

2. **Polydipsia** is consequent to the dehydration which is due to the excretion of an excessive volume of urine. Occasionally excessive thirst may give rise to the sensation of dry mouth and throat. In a patient recently seen the major complaint was dry and sore throat which led to a diagnosis of chronic tonsillitis for which the patient received treatment for some time without benefit. A routine urinalysis later revealed glycosuria and led to the diagnosis of diabetes mellitus, which while totally unsuspected was responsible for the distressing complaint.

3. **Weight loss** is a common feature in the young diabetic patient. It is due to the loss of potential calories, as glucose, in the urine. Most adult patients, particularly those in whom the disease is diagnosed after the age of forty, do not present this feature since the glycosuria is slight or moderate. The very fact that frequently such patients are obese at the time the diagnosis is established is an indication of the mildness of the diabetes. A continuing gain in body weight is not incompatible with the presence of diabetes mellitus.

4. **Excessive appetite** when associated with weight loss is an important feature of diabetes; the only other common condition in which this occurs is Grave's Disease. The polyphagia presumably represents an attempt by the body to compensate for the loss in weight due to the glycosuria.

5. **Pruritis vulvae** is a common presenting symptom of diabetes mellitus in the female. It is probably due in most instances to a monilia infection to which the diabetic is predisposed because of local tissue changes of a pellagrous nature. The severity of this condition bears no relationship to the degree of glycosuria. It is not uncommon to observe patients with this complaint in whom the lesion is treated locally for some time because the diagnosis of diabetes was excluded by failure to demonstrate sugar in a single urine specimen. In such patients repeated urinalysis and blood sugar estimations following carbohydrate rich meals may have to be done before the true case of the complaint is recognized. Generalized pruritus is an infrequent complaint, and, when present, is probably due to dehydration.

6. **Fatigue and Asthenia** are frequently the earliest symptoms of diabetes. Since these complaints are among the commonest presented by patients with a variety of diseases, it is of little help in directing attention to the possible presence of diabetes. Nevertheless, diabetes mellitus should be considered as a causative factor.

7. **Somnolence**, particularly following meals, is commonly associated with diabetes of the mild type in the older age groups. It is probably due to the hyperglycemia which tends to be maximal after a meal.

8. **Loss of libido and impotence** may be the only presenting complaint of the male diabetic.

Complaints associated with complications of diabetes mellitus—
The diabetic state may be so mild that the patient does not present any of these features, which are a direct consequence of the hyperglycemia and the associated glycosuria, but rather presents himself with one of the complications of the disease. Of these, the most important are: repeated urinary tract infections, furuncles and carbuncles, refractive changes, cataract, retinopathy, neuropathy and the consequences of peripheral arteriosclerosis such as intermittent claudication or gangrene.

The symptoms and signs discussed above, when present, should cause the physician to consider the possibility of diabetes. But what about the completely asymptomatic individuals—do they possess any features which should create the suspicion of diabetes? In persons of the following description, the physician should search for diabetes by careful enquiry for the symptoms known to be associated with the disease and by repeated urinalysis for sugar at regular intervals.

1. Individuals with a family history of diabetes, since it is known that diabetes occurs at least five to seven times more frequently among the blood relatives of diabetics than in the general population.

2. Individuals past forty who are obese, since at least 60% of patients in whom the diagnosis is made at this age are overweight. This is particularly true of diabetic females. Obesity apparently does not per se cause diabetes; but when obesity occurs in an individual who is predisposed to the disease by heredity, it may cause it to become manifest.

3. Women who have born babies whose birth weight exceeded twelve pounds. Several very careful studies have revealed that such mothers not infrequently develop diabetes in later life. Hence, as these women pass the age of forty, and particularly if they become obese, frequent urinalyses or

blood sugar estimations are in order to detect the diabetic state as early as possible.

Laboratory Diagnosis—Since by definition diabetes mellitus is a metabolic disturbance of unknown etiology characterized by hyperglycemia, and usually glycosuria, it should not be diagnosed until hyperglycemia has been shown to be present. Although it is true that almost invariably a patient with symptoms of diabetes who has glycosuria does have diabetes mellitus, it is still good practice to reserve this diagnosis until hyperglycemia has been demonstrated. This will avoid the false diagnosis of diabetes mellitus in patients who have renal glycosuria or mellituria due to sugars other than glycose.

The finding of "sugar" in the urine is the first step in the confirmation of the diagnosis of diabetes by laboratory means. In fact in about 40% of known diabetic patients the diagnosis is first suspected because of the demonstration of sugar in the urine in the course of an examination for some other purpose(1). Thus, the demonstration of sugar in the urine is not only a means of confirming the diagnosis suggested on clinical grounds, but is the simplest diagnostic test for the disease in the absence of any clinical manifestations.

If urinalysis is to be used for the detection of early diabetes, it is important that the urine be collected at a time of day when it is most likely to contain sugar. All too frequently the urine voided on arising in the morning is the one examined. This specimen is the one least likely to contain sugar since at this time the blood sugar is at its lowest concentration. Therefore, if the purpose of urinalysis is to detect early diabetes the urine should be collected at a time when the blood sugar is likely to be at its highest level. This is one to two hours after a meal.

A single negative urinalysis for sugar does not exclude diabetes mellitus, since in an early or mild diabetic true hyperglycemia may occur only during a few hours of the day. Therefore, if there is a strong clinical suspicion of diabetes repeated urinalysis should be done one to two hours after each meal for at least three days.

If the urine is positive for sugar the next step in the establishment of the diagnosis is the determination of the concentration of blood sugar. Usually the fasting blood sugar is the one determined. If it exceeds 140 mg. per 100 ml. of blood, the diagnosis of diabetes may be considered to have been established. If it is less than 140 mg. per 100 ml., the diagnosis cannot be excluded since it is not uncommon in the mild or early diabetic to find that hyperglycemia occurs only after the ingestion of carbohydrate. Therefore, if the urine is positive for glucose and the fasting blood sugar is normal or only slightly elevated, the next step in investigation should be the determination of the blood sugar concentration two hours after a carbohydrate rich meal of after the ingestion of glucose, that is a glucose tolerance curve. If the two-hour, post-prandial blood sugar exceeds 140 mg. per 100 ml. the diagnosis of diabetes may be considered to have been established. If the value is between 120 and 140 mg. per 100 ml. the diagnosis is doubtful, if the concentration is less than 120 mg. per 100 ml., the presence of diabetes mellitus has been excluded. In the evaluation of the glucose tolerance curve the most important feature is the duration of the hyperglycemia which follows the ingestion of glucose. If the blood sugar has returned to the normal value of 120 mg. per 100 ml., at the end of two or three hours diabetes is not likely. Not infrequent-

ly equivocal results will be obtained in either the post-prandial examination of the blood or in the glucose tolerance test. Under such circumstances the patient should be evaluated at six month intervals until such time that the diagnosis of diabetes has either been established or excluded. In the interim such patients are best looked upon as being "potential diabetics."

If the urine is positive for sugar and the blood sugar concentration is within normal levels on repeated examinations, the patient cannot be considered to have diabetes mellitus. The nature of the reducing substance should then be determined. If it is glucose, a diagnosis of "renal glycosuria" would be in keeping with the findings. If the reducing substance is not glucose its nature should be established before diagnosing the rather uncommon melliturias due to sugars other than glucose.

Mild diabetes may be present in the absence of glycosuria. In such instances the blood sugar is elevated, but this elevation is not of sufficient degree or duration to cause glycosuria. Consequently, if it is desired to determine the presence or absence of diabetes mellitus by the most sensitive method available, the examination of the concentration of blood sugar post-prandially or following the ingestion of glucose, as in the glucose tolerance curve, should be done in addition to the urinalysis. The value of post-prandial examination of the blood for the detection of asymptomatic diabetes is revealed by the results of a survey recently reported from Massachusetts (2). In this survey of 3186 persons the urine and blood were collected two hours after a normal meal. By this means seventy-one "newly discovered diabetees" were found. If urinalysis alone had been employed, only forty of the seventy-one cases would have been found; if blood alone had been studied fifty-eight of the seventy-one would have been detected. It is apparant, therefore, that the ideal method for the detection of early diabetes is combined urinalysis and blood sugar determination two hours post-prandially.

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The Bacterial Infections of the Skin *

By DENIS R. S. HOWELL, M.R.C.S., L.R.C.P.

PART I

THE SKIN AS A BARRIER AGAINST INFECTION

ABOUT seventeen hundred years ago Galen remarked "The skin is a fibrous substance covering the entire surface of the body; its purpose is to provide adornment, to act as an envelope and to ward off harmful influences."

Burtenshaw, who has done much original work upon the autogenous disinfection of the skin, writing in McKenna's excellent book "Modern Trends in Dermatology," points out that the modern view of the skin as a protective mechanism probably originated with the school headed by Sabouraud. The latter noted that bacteria in the skin are unable to invade the body except by proliferation into the dermis, and this is continually counteracted by the deeper layers of the epidermis approaching the surface and being shed. The work of Metchnikoff and Koch in the early part of the 20th Century, and of many eminent bacteriologists of recent years, has enlarged greatly our understanding of the mechanism by which the skin is enabled to protect the body from infection. Our knowledge now endorses almost exactly the original observation by Galen, namely that the skin acts as an envelope, a passive and almost impermeable shield, and also fulfils the more active function of warding off harmful influences.

In order for us to understand the methods by which bacteria are able to produce disease in or on the skin it is necessary for us to remind ourselves of some of the elements of anatomy, physiology, bacteriology, and pathology of that organ.

The intact normal skin is impermeable to water and electrolytes, and therefore to bacteria, but this is not due to the presence of the oily waxy covering, nor to the comparative impermeability of the horny layer. However, there is an absorption barrier placed between the stratum granulosum and the stratum lucidum, this representing an electric double layer with positive hydrogen ions on the outside and negative hydroxyl ions on the inside. However the dermal appendages afford a break in that bastion of nature, the epidermis. (See Fig. 1). If a substance penetrates into the pilo-sebaceous follicle, and reaches the duct of the sebaceous glands, and thence the glands themselves, it has circumvented the absorption barrier. The permeability of the cells of the sebaceous gland is greater than that of the granular layer of the epidermis. The sweat pores also penetrate the absorption barrier, thus forming a mode of entry for undesirable substances.

There are certain other factors which alter the permeability of the skin by modifying its structure or function. These include destruction of the stratum lucidum and granular layer of the epidermis, inflammatory hyper-

*Based upon presentations to the P. E. I. Medical Society the Western N. S. Medical Society and the Moncton and District Medical Society under the auspices of the Post-Graduate Committee Dalhousie University.

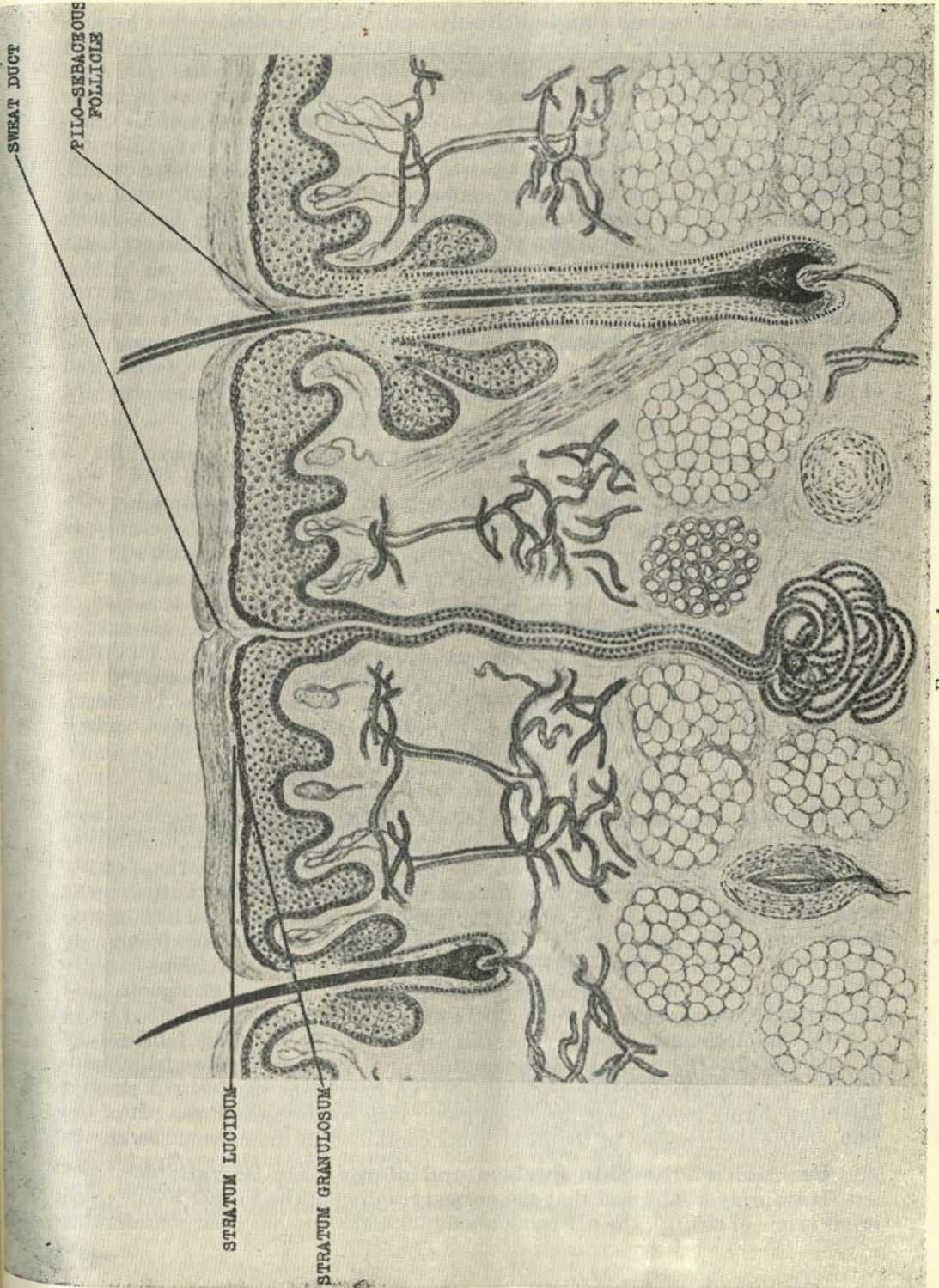


FIGURE 1

aemia, removal of certain skin constituents such as cholesterol, (either by precipitation with soap, or dilution by such substances as ether or chloroform,) and finally mild irritation or stimulation of the epidermal cells. Of these factors the first is probably the most important. We do not have to be reminded that not only bacterial invasion, but the entry of toxins of all types occurs very readily when the epidermis is removed from the skin. The occasional reports in the literature of cases of boron poisoning which have occurred from the application of boracic compresses to the acutely inflamed and desquamated skin of infants serves to remind us of the facility with which toxic substances may be absorbed through the skin, once the stratum corneum and stratum lucidum have been removed.

Of the many experiments and research projects which have been carried out in an attempt to elucidate the autogenous disinfection of the skin, particular attention has been directed towards firstly, the question of acquired immunity, secondly, the relation of the pH of the skin surface to the destruction of invading organisms, and finally, to the role of the skin secretions.

Acquired Immunity of the Skin

Many German workers in the first quarter of this Century believed that a localized specific immunity was possible in any given area of the skin. For example it was believed the connective tissues of the skin can combine with tubercle bacilli, making the latter harmless. Some interesting experimental work was carried out into immunity produced by erysipelas artificially induced. It has been shown that injection of the causative streptococcus into a given area of skin provides localised immunity for some considerable period of time, and that this immunity is shared by skin areas bordering on the originally injected area, provided that those areas lie along the path of lymph drainage of the skin area first infected. It would thus appear that localised immunity can be conferred by previous infection of a skin area with streptococci, but other work has shown that immunity over the whole skin is only acquired concurrently with generalised humoral immunity.

The pH of the Skin and Disinfection

The development of immunity in the skin to bacteria may be regarded as a form of disinfection in the depth of the skin. The factors which influence disinfection on the skin's surface have greater clinical application. Since Price's publication of an ingenious method for enumerating bacteria there have been several reports of experimental studies of the number of bacteria recoverable from the normal skin. Pilsbury reports figures varying from 4 to 40,000,000 bacteria recovered from the skin during normal scrubbing. Since many of these are under certain circumstances pathogenic, it is obvious that the normal autogenous disinfection of the skin is extremely efficient.

Of the mechanism by which the skin rids itself of organisms falling upon it, undoubtedly the constant desquamation of the upper surface of the epidermis, and dessication of the bacteria play an important part, but particular attention during recent years has been paid to the importance of the pH of the skin, and to the function of the fatty acids contained in the normal secretions.

Reaction of the Skin Surface and of the Skin Secretions.

It is firmly established that the normal reaction of the surface of the epidermis is one of acidity, the pH being about 5.0, but there has been considerable

dispute as to whether this acidity is due entirely to the secretions of the sweat glands, or whether the sebum is a contributing factor. However it appears to have been established that on the palm of the hand the sweat, which cannot be contaminated with sebum owing to the lack of sebaceous glands, is normally acid. Nevertheless the areas of skin furnished with apocrine sweat glands, including the axilla, the perineum, the forehead, the naso-labial fold, the interdigital regions and the soles of the feet, commonly have a definitely alkaline reaction. This is taken to be one of the reasons for the persistence clinically of bacterial infections of these intertriginous areas. (The alkaline sweat in these regions is apparently successful in overcoming the relatively moderate acidity produced by the sebaceous glands).

In passing it should be noted that diseases of the skin may alter its reaction. The scaling conditions such as psoriasis and seborrhoea, the vesicular processes including eczema, various atrophic diseases, and chronic inflammation, such as acne vulgaris, all lead to increased alkalinity of the affected areas, while the pus of the acute inflammations such as boils, and the blister fluid in dyshidrosis is acid in reaction.

The Substances Responsible for the Acid Reaction of the Skin

It has been known for many years that carbon dioxide is excreted in the sweat and in recent years it has been demonstrated that a portion of the skin acid is furnished by this gas.

At least one report contends that the skin acidity is maintained partly by breakdown products of the keratin layers. Keratin is an albuminoid containing a high percentage of cystine, which is a sulphur-containing amino acid.

However, it has been established by French and German investigators that the greater part of the acidity of the skin is due to the presence of lactic acid in sweat, and certain of the fatty acids found in decomposed sebum. These latter include formic, acetic, butyric, proprionic, caproic, and caprylic acids. In addition there are traces of sulphuric and phosphoric acids present.

The Lipoids of the Skin and Their Role in Autogenous Disinfection

Burtenshaw convinced himself that the acidity of skin scrapings would not alone account for the disappearance of pyogenic bacteria placed experimentally on the hand. He was able to prove that the fats present in the skin, hair, cerumen, and nails were strongly bactericidal to some strains of bacteria normally regarded as pathogens. The majority of the long-chain and short-chain fatty acids, with their esters and soaps, are derived from sebum, and have been shown by repeated experiment to contribute very largely to the bactericidal power of the skin.

Other Factors of Possible Importance in Autogenous Disinfection

Since the days of Hippocrates and Galen there have been many reports of the existence of a poisonous substance excreted upon, or emanating from the skin of menstruating women. Such an idea may seem to belong rightly only to ancient folk lore, and it is therefore of interest that as recently as 1920 Shick, (of Schick-test fame) published a report of such a substance, which was

supposed not only to be bactericidal, but to cause flowers to wilt, and fermentation processes to alter their course. He named this mythical substance 'menotoxin.' However, more recent research suggests that there may be a decrease in disinfection power during menstruation due to a fall in skin acidity.

Exposure to the sun and artificially produced ultraviolet light have for many years been thought to aid in overcoming superficial pus infections of the skin. This sterilising property is apparently due to the release of peroxides from the skin lipoids upon exposure to natural or artificial ultraviolet light.

The Bacteria Found Upon The Skin

Since it has been proved that the resistance of the skin to infection from without is extremely efficient, the identification of individual strains of bacteria on the skin's surface is of relatively minor importance unless we can establish their pathogenicity. It is well known that some organisms, which under normal conditions in other organs are almost always pathogenic, may be incapable of producing disease upon or in the skin. Similarly, some strains of organisms which normally reside upon or in the skin and are of no clinical importance so long as the normal process of autogenous disinfection of the skin is uninterrupted, may become pathogenic if the local or general resistance of the host is overcome.

We are thus unable to label bacteria found upon the skin as pathogens or non-pathogens, in the sense that organisms which are expected to cause disease in most organs may not follow the expected behaviour when they come into contact with the skin. It was to overcome this difficulty that Price in 1938 differentiated the skin bacteria into two groups, the "transients" and the "residents". "The transients are acquired mainly by contact, and vary greatly in both number and kind. They may be abundant on exposed skin, especially under the nails and in the skin folds, but are relatively scarce on clean protected skin. The residents form a comparatively stable group. Forces increasing their number (such as growth) and decreasing it (such as washing and desquamation) tend to reach an equilibrium." Just to confuse the issue a little further, there is some experimental evidence that a transient may, by frequent reinoculation, become accustomed to conditions originally adverse and establish itself as a resident, thus making a carrier of its host.

The source of organisms capable of producing bacterial infection of the skin is a matter of some importance. While it is possible that the residents and non-pathogenic staphylococci may live in the skin appendages, such as sweat glands, sebaceous glands and hair follicles, it is considered highly improbable that pathogenic staphylococci or group A haemolytic streptococci can do so. All the evidence suggests strongly that these latter organisms come from the individual's own naso-pharynx, by the expulsion of infected droplets. *Thus, in estimating the chances of a particular individual contracting bacterial infection of the skin, the carriage of pathogenic organisms in the skin is probably of secondary importance to carriage in the respiratory tract.*

We are now coming to the end of our consideration of the theoretical and experimental basis for the various factors concerned with bacterial infection of the skin, and are approaching the time when we will pass on to the clinical manifestations of such infections. However I wish to mention briefly two

other points of some importance—namely, the question of sensitization to bacteria, and, secondly, the influence of diet upon pus infections of the skin.

Cellular Reactions and Immunological Changes

It is probable that the changes seen at the sites of entry of an infectious agent are initially the result of changed environment of the cells, due to growth in their fluid medium of the bacteria concerned. A second series of changes results, in the case of certain bacterial infections, from a specific alteration of the basic reactivity of the cell. These changes, usually referred to as allergic reactions, are due to sensitization to bacterial antigens. The essential differences between such bacterial sensitization and the anaphylactic or atopic sensitization seen in serum reactions or pollen sensitivity have been described by Forbus. The fundamental difference is the fact that in anaphylaxis or atopic sensitization the serum of the sensitised individual contains a substance which will passively transfer sensitivity to normal individuals. In bacterial sensitization the cells of the sensitized individual become altered, but passive transfer with serum to other subjects is unsuccessful.

Dietary Factors in Bacterial Infections of the Skin

I do not propose to go into detail into the so-called Vitamin deficiencies, except to comment that recent experiments suggest that many of the lesions and skin diseases hitherto regarded as due to Vitamin deficiencies may in fact be due to other factors. However it is readily recognised that where a genuine Vitamin deficiency exists the process of healing is impeded, and it is possible that secondary infection of the skin may be encountered. This is particularly important in the field of plastic surgery, in which much attention was paid to adequate Vitamin intake during the recent War.

For many years carbohydrate metabolism has received considerable attention in the prevention and control of pus infections of the skin. The tendency of diabetics to develop serious infection as a result of trivial injury is well-known, but diabetes is not the only condition in which the sugar content of the skin itself is abnormal. There has been argument for years among dermatologists as to the necessity for dietary restrictions in the control of acne vulgaris, but recent work does seem to have established that excessive carbohydrate intake is concerned directly with the tendency which some acne patients have towards the development of excessive numbers of pustules.

The irreversible vaso-dilation produced by oft-repeated alcoholic flushing, together with the high carbohydrate content of most popular beverages is mainly responsible for the disfiguring rosacea, with its tendency to pustule formation, often culminating in an enormous rhinophyma. The late W. C. Fields was a classic example of this type, but this phenomena has been known for very many years. I came across a quotation from a poet, hitherto unknown to me, by the name of Soame Jenyns, who in the middle of the 19th Century produced a work called "The Art of Dancing."

"Ever let my lovely pupils fear

To chill their mantling blood with cold small beer,
Destruction lurks within the poisonous dose,

—A fatal fever or a pimply nose,"

(To be continued)

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SPECIAL POST-GRADUATE SPEAKER

The speaker for November as arranged by the Post-Graduate Committee will be Dr. Christopher J. Duncan of the Free Hospital for Women, Brookline, Massachusetts. He will visit Halifax on the 14th and 15th November and on the 14th will address an evening meeting of the Halifax Medical Society to which all medical practitioners of the four Maritime Provinces are cordially invited. On the following day he will address physicians and students at 11.00 a.m. The remainder of his time will be on an informal nature consisting of ward walks, discussions, etc. It is hoped that as many general practitioners as possible will be able to attend.

Tentative Programme—25th Annual Dalhousie Refresher Course

NOVEMBER 5th to 9th, 1951.

MONDAY, NOVEMBER 5th, 1951.

Morning—Victoria General Hospital Auditorium.

8.30-9.00 Registration.

9.00-9.50 Surgical Clinic—Dr. V. O. Mader—"Diseases of the Oesophagus and Cardiac End of the Stomach."

9.50-10.40 Medical Clinic—"Management of Undernourished and Debilitated Patients"—Dr. C. S. Davidson, Boston, Mass.

INTERMISSION—10 minutes.

10.50-11.40 Urological Clinic—"Principles of Treatment of Infections of the Urinary Tract"—Dr. Richard Chute, Boston, Mass.

11.40- 1.00 Round Table—To be announced.

LUNCH.

Afternoon—Lord Nelson Hotel Ballroom.

2.30-3.15 "Management of Ascites and Edema in Chronic Liver Disease"—Dr. C. S. Davidson, Boston, Mass.

3.15-4.00 "The Sinister Significance of Hematuria"—Dr. Richard Chute, Boston, Mass.

INTERMISSION—10 minutes.

4.10-4.30 "Abortions"—Dr. James Corston.

4.30-6.00 Round Table Discussions—"Gastro-intestinal Hemorrhage"—Dr. R. M. MacDonald—Moderator.
Drs. C. S. Davidson, E. F. Ross, J. W. Reid and W. I. Morse.

Evening—Victoria General Hospital Auditorium.

8.00-10.00 Medical Motion Pictures.

TUESDAY, NOVEMBER 6th, 1951.

Morning—Victoria General Hospital Auditorium.

8.15-9.00 Medical Motion Pictures.

9.00-10.00 Medical Clinic—"Diabetes"—Dr. C. W. Holland and Dr. D. J. Topping.

10.00-11.00 Urological Clinic—"Differential Diagnosis and Treatment of Masses in the Scrotum"—Dr. Richard Chute, Boston, Mass.

INTERMISSION—10 minutes.

11.00-12.00 Medical Clinic—"Hepatitis"—Dr. C. S. Davidson, Boston, Mass.

- 12.00- 1.30 Round Table Discussion—"Renal Insufficiency."
Dr. Martin Hoffman—Moderator.
Drs. Richard Chute, D. J. Tanning and C. M. Harlow.
- 1.30 LUNCHEON—VICTORIA GENERAL HOSPITAL CAFETERIA—Courtesy—Victoria General Hospital.
- Afternoon—Lord Nelson Hotel Ballroom.
- 2.45-3.15 "Etiology and Management of Obesity"—Dr. Martin Hoffman.
- 3.15-3.35 "Common Skin Disorders in Children"—Dr. D. R. S. Howell.
- 3.35-3.55 "The Vaginal Discharges"—Dr. W. R. C. Tupper.
- INTERMISSION—10 minutes
- 4.05-4.25 "Minor" Anaesthesia—Dr. Walter Muir.
- 4.25-5.55 Round Table Discussion—"The Pathology and Management of Coronary Artery Disease."
Dr. C. W. Holland—Moderator.
Drs. N. G. B. McLetchie, Lea C. Steeves, W. A. Murray and J. G. Aldous.
- Evening—Victoria General Hospital—5th Floor Clinic Room.
- 8.00-8.20 Fractures of the Os Calcis—Dr. W. Alan Curry.
- 8.25-8.45 Repair of Traumatic Skin Loss—Dr. Earl Grant, Saint John, N.B.
- 8.50-9.10 Some Remarks on Hand Injuries—Dr. J. V. Graham.
- 9.15-9.35 Fractures of the Spine with Neurological Complications—Dr. W. D. Stevenson.

WEDNESDAY, NOVEMBER 7th, 1951.

- Morning—Victoria General Hospital Auditorium.
- 8.15-9.00 Medical Motion Pictures.
- 9.00-10.00 Symposium—"Headache"—Dr. W. D. Stevenson, Dr. Walter Leslie, Dr. Fraser Nicholson.
- 10.00-11.00 Round Table Clinic—"Anterior Poliomyelitis."
Dr. Clyde Marshall—Moderator.
Drs. C. E. Kinley, C. H. Reardon, A. R. Morton, B. F. Miller.
Intermission—10 minutes.
- 11.10-11.30 Case Presentation—To be announced.
- 11.30- 1.00 Round Table—"Principles in the Management of the More Common Fractures."
Dr. A. L. Murphy, Moderator.
Drs. W. E. Gallie, J. H. Charman, Basil Coady.
- 1.30 LUNCHEON—CAMP HILL HOSPITAL.
Courtesy—Department of Veterans Affairs.
- Afternoon—Camp Hill Hospital.

- 2:45- 4.30 Series of Clinical Demonstrations.
 Clinical cases of Obliterative Arterial Disease—Dr. J. A. Noble.
 Clinical cases of Ulcerative Colitis—Dr. E. F. Ross.
 Operative Techniques in Hernial Repair—Dr. J. H. Charman.
 Regional Anaesthesia—Dr. C. G. MacKinnon.
 Clinical cases of Bronchogenic Carcinoma and Bronchiectasis—
 Dr. R. H. Stoddard.
 Clinical cases of Glaucoma—Dr. L. G. Holland.
 Hypertension—Dr. C. M. Harlow.
 Dicoumarol Therapy—Dr. H. C. Read.
 Common Problems in Allergy—Dr. T. M. Sieniewicz.
 Common Problems in Dermatology—Dr. D. R. S. Howell and
 Dr. H. I. Goldberg.
 Treatment of Common Cardiac Arrhythmias—Dr. W. A.
 Murray.
 Medical and Surgical Treatment of Pulmonary Tuberculosis—
 Dr. A. D. Lapp and Dr. V. O. Mader.
 Medical Social Service and Welfare Service for Disabled Vet-
 erans—Miss C. Mattar, Mr. Lloyd Isenor and Mr. W. R. B.
 Lugar.
 Place of Physical and Occupational Therapy in the Treatment
 of Arthritis—Miss F. Peters and Miss M. Hamilton.
 Urological Congenital Anomalies—Dr. Clarence Gosse and Dr.
 Gordon Mack.
 Evening.
- 6.00 BUFFET SUPPER—LORD NELSON HOTEL—Georgian
 Lounge.
- 8.00 John Stewart Memorial Lecture—"Teaching and Research in
 Surgery"—Dr. W. E. Gallie, Former Professor of Surgery,
 University of Toronto. Past President American College of
 Surgeons.
 Lord Nelson Hotel Ballroom.

THURSDAY, NOVEMBER 8th, 1951.

Morning.—Victoria General Hospital Auditorium.

- 8.15-9.00 Medical Motion Pictures.
- 9.00-10.00 Psychiatric Clinic—Dr. R. O. Jones, et al.
- 10.00-10.50 Pediatric Clinic—"Abdominal Pain in Children"—Dr. Alan
 Ross, Montreal, Canada.
 INTERMISSION—10 Minutes.
- 11.00-12.00 "Hormonology and Theray in Functional Uterine Hemorrhage,
 —Discussion—Dr. E. C. Hamblen, Duke Univ., North Caro-
 lina, U. S. A.
- 12.00-1.30 Round Table Discussion—"Surgical Jaundice."
 Dr. Alan Curry—Moderator.
 Drs. C. E. Kinley, N. H. Gosse, V. O. Mader and M. M. Hoff-
 man.

1.30 LUNCHEON—VICTORIA GENERAL HOSPITAL CAFETERIA
—Courtesy—Victoria General Hospital.
Afternoon—Lord Nelson Hotel Ballroom.

2.45-3.30 "The Feeding of Infants and Children"—Dr. Alan Ross, Montreal, Canada.

3.30-4.15 "Some Remarks on Conservatism in Gynaecology"—Dr. E. C. Hamblen, Duke Univ., North Carolina, U. S. A.

INTERMISSION—10 minutes.

4.25-4.45 "Lymph Node Enlargement"—Dr. Harold Read.

4.45-6.00 Round Table Discussion—"The Antibiotics and Newer Therapeutic Agents."

Dr. J. W. Merritt—Moderator.

Drs. Roger Reed, G. B. Wiswell, R. L. Aikens, H. I. Goldberg, J. G. Aldous.

Evening—Victoria General Hospital Auditorium.

8.00-10.00 Medical Motion Pictures.

FRIDAY, NOVEMBER 9th, 1951.

Morning—Victoria General Hospital Auditorium.

8.15-9.00 Medical Motion Pictures.

9.00-9.45 Orthopedic Clinic—Dr. Acker and Dr. Miller.

9.45-10.50 "Congenital Heart Disease"—Dr. Alan Ross, Montreal, Canada and Dr. R. L. Saunders.

INTERMISSION—10 minutes.

11.00-11.50 "The Climateric"—Dr. E. C. Hamblen, Duke Univ., North Carolina, U. S. A.

11.50- 1.00 Round Table Discussion—"Medical Aspects of Pre and Post Operative Care."

Dr. C. J. W. Beckwith—Moderator.

Drs. Lea C. Steeves, D. J. Tonning, G. W. Bethune, F. G. Mack.

LUNCH.

Afternoon—Lord Nelson Hotel Ballroom.

2.30-2.50 "Analgesia in Obstetrics"—Dr. K. M. Grant.

2.50-3.10 "Constipation"—Dr. R. M. MacDonald.

3.10-4.30 Round Table Discussion—"Chronic Right Lower Quadrant Pain in the Female."

Dr. H. B. Atlee—Moderator.

Drs. E. C. Hamblen, J. V. Graham, W. G. Colwell, R. O. Jones.

Address by the Rt. Hon. Sir Earle Page,

GCMG., C.H., FRACS., FRCS (HON),

AUSTRALIAN MINISTER FOR HEALTH AT A SPECIAL MEETING
OF THE ACADEMY OF MEDICINE, TORONTO, 14th August, 1951

I ESTEEM it a great privilege to have the opportunity of discussing the fundamentals of our Australian National Health Scheme.

PARTNERSHIP OF THE STATE, THE MEDICAL PROFESSIONS AND THE COMMUNITY

The test of the efficiency of a national health scheme must be improvement of the health of the nation and the individual—the lessening of disease, progressive elimination of causes of disease, and a continuous rise in the qualitative excellence of medical practice. A scheme satisfying this test will come only from the active, continuous partnership of governments, the medical and allied professions and the individuals of the community. I hope to show that the judicious union of governmental aid with nation wide voluntary insurance against sickness and disease can create such a partnership between the government and the individual in which the traditional intimate doctor-patient relationship, that has been the glory and inspiration of medicine since the time of Hippocrates, can be maintained and developed with the minimum of governmental control or interference between doctor and patient.

This partnership is a recognition that the State, individuals and the medical profession have obligations in a national health scheme. All will benefit: The individual will gain better health, longer life and an easier mind against the expense of sickness. The State will gain from more efficient production, from less man-hour loss, and from greater national income and social stability. The doctors will benefit from a sense of security in their profession, from the opportunity of seeing their patients at an early stage and cutting down the duration of disease, with more time to study and absorb the medical experience gained from the treatment of each patient.

Such a partnership destroys nothing, but will make use of all those factors and organizations that have been built up over centuries to assist the restoration of health and prevent disease. This conception aims to keep everything that is good, and to reject the obsolete. It will not destroy past advances in the medical art, but will make provision for the use of all future advanced methods through nation wide insurance against the cost of sickness and hospitalization. Our method of attack leaves everyone free to carry out the most effective handling of health problems—the doctor, the patient, the hospital management and staff, the chemist and the voluntary insurance organization. It keeps alive the element of initiative and competition in service that really produces progress.

Such an arrangement will leave the Government much freer to help in its own role of finance. Under the system proposed, the Government will have

strict control over its own costs, leaving management of the insurance field to the voluntary societies. The patient and doctor both have a definite interest in preventing waste and abuse of time, skill, medicine and equipment, while the voluntary societies have a direct interest in preventing fraud.

In brief, our view is that a satisfactory health scheme can be satisfactorily operated only when there is complete co-operation and harmonious relationship between:—

- (a) The providers of health services; that is, the hospital administrators and the medical, pharmaceutical and nursing professions.
- (b) The government, whose role should be concerned mainly with financial assistance, with perhaps some co-ordinating functions.
- (c) The community, who must be educated to partake of the services as they become necessary, and not to abuse any privileges.

The important group is, of course, the community, and it is well to bear in mind that no health service is satisfactory unless it extends to all sections of the community. If governments are to have a hand in assisting health services with financial aid it would be most unfair to exclude the wealthy who, after all, contribute largely to the revenue.

Voluntary prepaid insurance, backed by governmental aid, should be an attractive proposition to at least 85 per cent of the people. Even those in the low income brackets should find no difficulty in meeting the low premiums—less than the price of a packet of cigarettes per week in some cases—which will provide the necessary coverage for their needs. I shall show that the remaining 15 per cent can also be adequately cared for.

The Challenge to the Medical Profession

In the last analysis all medical care must be by individual doctor to individual patient. In actual fact, therefore, no real national health service can be provided without the willing and whole-hearted co-operation and guidance of the doctors of the nation.

Here comes the challenge to the medical profession. Doctors are essentially self-dedicated and set apart to the service of their fellow man to save life and bring health. Their passionate devotion to these aims tends to make them become completely absorbed in the practice of their profession. But the time has come when, in the interests of the future existence and the future health of our race, and for the preservation of their own high and noble profession, doctors must take a special interest in the manner in which health problems are handled by the Government and the public.

Australian Health History

The last half century has seen in all countries a tremendous improvement in vital statistics, especially the reduction in the mortality rate and incidence of many diseases. This reduction has been due mainly to two factors—the remarkable discoveries of medical research into the causes of disease by various germs and methods of diagnoses, and the application of the discoveries to health problems on the advice of the medical profession.

I instance the improvement in health figures in my own country. Census figures show that the Australian infant mortality rate per thousand per annum dropped from 118.40 in 1901 to 31.99 in 1947 and is still declining. At all ages up to 40 the rates of mortality in 1947 were approximately one-third of the corresponding rate of 1901 for males, and one-quarter for females. At the age of 60 the rate for males in 1947 was 70 per cent of the corresponding rate in 1901, whilst the female rate at 60 was only 60 per cent of that of 1901.

Australian life tables—complete expectation of life—show that the expectation of life at the date of birth, according to the experience of the period, was in 1901 at 51 years for males and 54 for females. The census of 1947 showed that this expectation of life had risen to 65 years for males, and 70 for females. Taking the expectation of life at date of birth as a measure of the life efficiency of those born, it may be said that the experience of 1947 indicates a life efficiency about 29 per cent in excess of that for 1901.

These results are an expression of the cumulative efforts of the medical profession on the whole health front during this period. Insistent advice and pressure of doctors in Australia, as in other countries, have ensured an improvement in water supplies, in sanitation and in immunization against infectious diseases. By the research of doctors, new germs, new drugs and new methods of treatment have been discovered. Doctors have learned by experience the effective use of these. The result is seen in this remarkable improvement in national health.

Necessity of Professional Control

But this remarkable advance may easily be lost overnight. The health of civilization is standing on the edge of a precipice if medical direction in the use of these discoveries is removed.

The experience of malaria in New Guinea in the last war is very illuminating in this respect. In the 20 years between the first and second world wars, remarkable improvements were made in the treatment and prevention of malaria. Yet, in the first six months of the New Guinea campaign against the Japanese, our soldiers, though under the strict governmental direction of Army control, suffered such disabilities from malaria, dysentery and scrub typhus as to reach the enormous annual proportion of 5,000 per 1,000 troops engaged; that is to say, 6 divisions would have been needed to keep one division in the field. This rate of disability was equalled only by the East African campaign in World War I when our armies were practically without medical supplies.

At the time this alarming position in New Guinea occurred there were available to the Army such expert malarial authorities as Sir Hamilton Fairley, Professor of Tropical Medicine of London University, and the most distinguished men from Harvard, Yale and John Hopkins, but the combatant commanders did not realize the vital importance of supreme medical control of this condition. At that time I was sitting in the Australian War Cabinet and raised the question of its rectification with the Australian Prime Minister. He requested Churchill and Roosevelt to insist upon medical discipline on approved lines and the full use of equipment and drugs available. Within a few months these measures reduced the disability rate from malaria to the lowest ever known in any war.

This incident gives a note of warning that these great advances of ours may go overnight. The ghastly health story of the interment camps in Europe and Asia show what can happen if full use is not made of medical achievements.

The point I wish to make is that while the health plan I outline leaves the proper functions of doctors completely free of governmental control, yet it is indispensable for its success that our best medical minds should disengage themselves long enough from their absorbing personal, professional work to ensure that health problems are wisely dealt with. Nationalization of medicine must be resisted at all costs. Mere transfer of a problem to governmental control does not solve that problem—it may even intensify it.

In any case, should not our free democratic people ask themselves why, when they have been able to obtain such magnificent results from our present health system, they should discard that system and attempt to sail on the uncharted sea of nationalized medicine?

In all medical nationalization schemes pressure to cover the whole field at once has led to chaos and those most needing care often do not receive priority. The better way, surely, is to move steadily upwards, step by step, building on the solid foundations of our past achievements and maintaining the great traditions of service and intimate doctor-patient relationship.

In our Australian national health scheme each of the partners, that is to say, the government, the medical and allied professions and the community, can take appropriate inter-related steps in their own role and sphere. The essence of this plan is to lessen the impact of sickness and, by the reduction of sickness, to lessen the consequent loss of productive capacity throughout the community. By means of a basic grant of governmental aid directed to prevent or shorten disease, it aims to stimulate throughout the whole community the spread of prepaid voluntary insurance schemes covering the greater part of hospital and medical costs. This lessening of the cost of individual medical and hospital treatment will encourage the patient to seek early diagnosis and treatment and thus start the beneficial circle to reduce the total cost of treatment—both human and physical.

The Role of Governments

The Government's role is to take such initiative in preventive measures as will secure community assistance and action.

Firstly, Federal and State governments can raise steadily the standard of medical treatment by the provision of ample numbers of highly trained and experienced specialists, general medical practitioners, nurses, pharmacists and research students. This contribution would be by Federal and State governmental aid in the capital cost of building, and provision of modern equipment to universities, medical schools, and teaching, base, district and community hospitals. Combined with this, provision should be made for a home nursing service which is often cheaper and happier for the patient. Provision should also be made for the treatment of the aged and chronic in special wards in institutions instead of treatment in general hospital beds.

In this connection the Australian Government is lessening the entry into hospitals of the aged by providing free general medical practitioner service and free medicine to pensioners and their dependents, both in their homes and in the

doctor's surgery. This is achieved by an arrangement with the Australian division of the British Medical Association on a concessional fee-for-service basis.

Secondly, the governments can take the initiative in improvement of sanitation by extending water supplies and sewerage installations. In the '30's the Australian Government carried these services into many small hamlets and towns by making an agreement to provide one-third of the interest and sinking fund costs on the condition that State governments and local communities each provided one-third. The effect of this measure on typhoid was seen in one town of about 15,000 people. There the annual recurrence of 700 cases of typhoid dropped to 2 or 3 which came from outside its area.

Thirdly, governments can improve nutrition and health by standardization of the quality and purity of food and drugs, with a definite lessening of sickness. The Australian Government has taken a further step in the improvement of nutrition by the free provision of milk to school children up to the age of 13 years in creches, kindergartens and public and private primary schools. The milk is given the children during the morning recess and uniformly brightens up the youngsters for the succeeding lessons. The Education departments of the several States are actively co-operating in this programme.

Fourthly, the Australian Government has made a direct attack on the killer diseases and on the incidence of infectious diseases by the free provision, on a doctor's prescription, of costly life-saving and disease-preventing and immunizing drugs to all sections of the community. Prevention of disease and curtailment of its duration by such means reduce the cost of hospital and medical care, both from the point of view of the government and the individual, lessen the country's loss from industry, increase total wealth production of the nation and pay for themselves several times over.

It is imperative that doctors should discipline this system of free drugs. In Australia the Federal Council of the British Medical Association has given the Government an advisory council of seven distinguished specialists and professors of pharmacology which decides what drugs should be free. The Council has also appointed a committee of four outstanding doctors to discipline doctors and chemists and prevent indiscriminate use of these powerful drugs. The result has been that in Australia the cost of this benefit has approximately equalled the original estimate.

Fifthly, my Government has taken a preventive measure by the provision of grants for medical research. The co-ordination of activities in this field has been brought about by the creation of a National Health and Medical Research Council which lays down the work to be done and prevents overlapping. The composition of this body consists of the Director-Generals of the Federal and State Health Departments, representatives from the medical faculties of universities and distinguished specialists.

The sixth preventive measure is the passage of laws making compulsory radiographic chest examinations in order to discover early tubercular infection, and the provision of liberal allowances to actual infectious tubercular cases and their dependants to enable such cases to rest sufficiently long with their minds at ease to arrest their disease and cease to be a danger to the public.

Partnership of Government and Voluntary Insurance

The preventive measures I have mentioned have been undertaken wholly by the Government because it is felt that the community benefit flowing from them may be as great or greater than the individual benefit. There now remains the field of medical and hospital benefits in which the individual gain is undoubtedly the greater. The Government's view is that this field should be covered by a system of prepaid voluntary insurance, operated by voluntary non-profit-making organizations experienced in that particular field. To encourage the development of such organizations and to make the benefits attractive to their members, the Australian Government proposes to make available substantial grants-in-aid.

Insurance Against Medical Costs

The present system of insurance against medical costs tends to be on a flat rate, to be limited by a definite income-earning capacity and to be confined almost exclusively to employed persons.

A wide extension of voluntary insurance to the community as a whole, and especially to the self-employed and rural elements in the community, can be secured by a basic grant of governmental aid towards extending the actuarial benefits possible under existing insurance schemes. Insurance would thereby be made so attractive as to induce many people to seek insurance cover without great expenditure on enrolling agencies. This grant-in-aid would be given only if participating insurance organizations at least matched the government grant for each item of medical treatment.

The grant, plus an equivalent amount of insured benefit, would meet approximately 80 to 90 per cent of the fees charged to the lower income groups. Higher income groups would insure themselves for greater benefits, rendered more valuable by the existence of the governmental grant. There would be no direct connection between the government and the medical profession. Agreements would be made on a long-term basis with organizations providing insurance cover.

Special Feature of the Australian Plan

I should now like to elaborate on a feature of our plan which is somewhat unique; that is, the proposal to make available to the patient, through his organization, the appropriate amount of governmental subsidy, even where the organization is precluded from paying a benefit under its own rules.

In a number of circumstances an organization, because of actuarial considerations, does not pay a benefit to its members. For instance, there is the usual condition that a member must go through a probationary or waiting period, usually two months in ordinary cases, and nine or ten months in confine cases. Most organizations have a maximum amount which can be drawn on their funds during a calendar year. Then again, organizations will not usually pay a benefit for treatment of certain chronic disease, or for treatment of a complaint, the symptoms of which were in evidence at the time of joining. We propose to make the governmental subsidy available to members of organizations in all these cases. Thus a man may become a member on his way to the doctor and be eligible for the grant.

Our view is that this will have a twofold effect: Firstly, voluntary insurance will be made very attractive. The man who would not ordinarily be bothered to join an organization will see the advantages, and once he becomes a member we think he will continue membership. Secondly, some portion of his medical expenses will be met by the government, and thus he will be relieved of the expense to that extent. From a financial point of view, the grant may often exceed his yearly contribution. We also think that the governmental grant will enable the organizations to liberalize their exclusion conditions.

In order to cope with the "in and out" person, that is, the man who pays one or two contributions to an organization to obtain the governmental grant and then drops out, we propose to follow the practice of the organization. If a member is in arrears with his premium, but is still regarded as being financial by the organization, the governmental subsidy will follow along with the organization's benefit. However, where the member becomes unfinancial under the organization's rules, and the organization refuses to pay a benefit until the arrears are paid, the governmental subsidy will also be withheld. Of course, an unfinancial member who pays his arrears will immediately be eligible for the governmental subsidy.

"Unable" Section of the Community. A suggestion sometimes asked is how is it intended to cover those people unable to join the voluntary prepaid insurance organizations? These may be divided roughly into two groups: Those who are financially able to contribute as members of organizations, but have been unacceptable for membership in the past because of age or for health reasons, and those who are acceptable for membership but have not sufficient finance to maintain membership.

Regarding the first group, the organizations have already indicated a readiness to liberalize their rules in the matter of age limits, and rarely refuse membership on the grounds of ill health. They may, of course, make the membership conditional, but it has already been explained that the governmental subsidy will flow to the patient in these cases.

The second group, that is, the indigent group, presents more difficulties, but in Australia the great majority of these are already provided for under the Pensioner's Medical Service which takes care of age, invalid and other pensioners and their dependants. It is estimated that not more than about 5 per cent of the population will consist of indigents who are not already covered, and consideration is now being given to ways and means of reaching these people. It is thought that the solution will be either by way of subsidy through the organizations or by direct screening and subsidy by the Government.

Insurance Against Hospital Costs

The principle of prepaid voluntary insurance, similar to that proposed for medical expenses, is being applied in Australia in regard to hospital costs.

The several preventive measures I have already outlined, by lessening the incidence of sickness, will improve the position of hospital finances generally and the accommodation position.

A still further improvement is being brought about by encouraging domiciliary treatment of minor illnesses. I have mentioned in passing the

domiciliary treatment of pensioners and their dependants which is achieved by an arrangement with the Australian division of the British Medical Association, under which this group receives free treatment and free medicines, and the doctor is remunerated by the Government on a concessional fee-for-service basis.

When hospitalization is inevitable, however, we are meeting the position by an extension of the prepaid insurance principle. By joining a voluntary non-profit-making organization which handles hospital insurance, a person or any of his dependants will become entitled to a governmental grant of 12/— (twelve shillings) per day towards the costs of hospitalization. As there is a requirement that the voluntary organization must provide at least six shillings per day, a minimum of eighteen shillings per day is available to meet the hospital costs. In actual practice the total insurance is something more than that sum.

As in the case of medical benefits we believe that abuse is best avoided by leaving some portion of the hospital costs to be paid by the patient.

Further, as in the medical benefits plan, the governmental daily grant will be available to insured persons in circumstances where actuarial considerations preclude the organizations from paying benefits from their own funds; for instance, during waiting periods, or where the maximum period under the organization's rules has expired, and for specific diseases not recognized by the organization.

Summary

In summing up we think:—

1. That emphasis should be placed on the preventive side of medicine. This is particularly important in a country where there are shortages of hospitals, hospital staffs and hospital equipment.

2. A health service should extend to all sections of the community. Therefore governmental grant-in-aid should be available to all the people.

3. In order to avoid abuse, and thus allow financial aid and medical services to be used to the fullest extent in genuine cases, the patient should meet a small part of actual expenses when they are incurred.

4. A successful health service requires complete co-operation between governments, the providers of the service and the people.

We are convinced a health scheme which satisfies all of these fundamentals will operate more smoothly than one which antagonizes certain sections, and which leaves a large body of the community without adequate cover against the risks of sickness and disease.

Physicians Wanted

Physicians wanted for South and South-East Africa. The following letter received from Doctor Cameron, Deputy Minister of National Health, is self explanatory, with the exception that the needs are not defined. The needs are for a Thoracic Surgeon, Anaesthetist, Cardiologist, Chest Specialist, Orthopaedic Surgeon, Physiotherapist, Pathologist and Medical Radiologist.

Ottawa, Ontario

September 14, 1951

Dr. H. G. Grant,
Dean of Faculty of Medicine,
Dalhousie University,
Halifax, N. S.

Dear Doctor Grant:

As you are undoubtedly aware, the Canadian Government, is making a substantial contribution to the Commonwealth Scheme for Co-operative Economic Development in South and South-East Africa (The Colombo Plan). The objectives of this plan are to raise the economic and social standards of these areas by furnishing financial and technical assistance toward the development of their natural resources. Much of the aid will be directed toward increasing the agricultural and industrial productivity, but as an essential part of the programme, assistance will be given, in close co-operation with the World Health Organization and other United Nations Agencies, toward measures designed to improve the health standards of the populations.

One of the greatest needs throughout all aspects of the programme is for trained technical personnel, and it is in this area that it is felt that Canada can make a valuable contribution both in providing opportunities for suitable candidates from within the region to receive further training in Canada, and by providing trained persons from Canada to assist in setting up teaching centres in the countries themselves.

In connection with this latter phase, a number of requests have now been received from the Governments of India and Ceylon, for specialist medical personnel to assist in the establishment of post-graduate teaching centres. Copies of these applications are enclosed for your information.

I appreciate that the number of men who can be interested in this type of service is limited. You will note also that the qualifications asked for are exceptionally high, and my own feeling is that they may find it necessary to accept men who have had good training and experience, but may not possess quite all the qualifications described.

The Technical Assistance Service endeavoured to fill these positions by advertising in a number of the medical journals, but the response received

was very disappointing. It is for this reason that I am writing to you in the hope that a more direct approach to individuals of your acquaintance who might be interested in the appointments can be effected. Anything which you can do along these lines or any suggestions you can offer to assist us in securing candidates would be greatly appreciated.

You will note that no mention is made in the enclosed specifications of remuneration and other terms and conditions of employment. It was felt that this might be left to individual negotiation in each case, but in general I believe the conditions will be fairly closely in line with those offered by the WHO and other United Nations Agencies. Thanking you for your consideration and attention to this matter, I remain

Yours sincerely

(Sgd.) G. D. W. Cameron

Deputy Minister of National Health

Society Meetings

The annual meeting of the Nova Scotia Society of Ophthalmology and Otolaryngology was held at Antigonish, N. S. Wednesday, September 12, 1951. Dr. H. F. Sutherland, the President, was in the chair.

After some discussion it was moved by Dr. D. M. McRae, seconded by Dr. R. S. Shlossberg, that our Society and the New Brunswick Society of Eye, Ear, Nose & Throat Specialists would hold joint meetings in the Spring and Fall. Details and dates to be arranged by the two Executives.

It was regularly moved by Dr. J. G. Cormier, seconded by Dr. H. J. Davison, that a programme of scientific papers be arranged for our annual meeting.

Following discussion it was moved by Dr. H. J. Davison, seconded by Dr. H. R. McKeen, that our Society hold a meeting in Halifax on Wednesday, November 21st, 1951 along the lines as the meeting there in November, 1950, and details to be arranged by the Executives.

On motion of Dr. R. S. Saunders, seconded by Dr. J. G. Cormier, it was agreed that an honorarium of twenty-five dollars be paid for Secretarial services rendered the Society.

The Secretary-Treasurer's report was read and the records and Statement were approved by the Auditor and passed by the meeting.

The nominating meeting consisting of Dr. Shlossberg, Dr. Cormier and Dr. Fraser brought in their report, and on motion of Dr. Shlossberg, seconded by Dr. Cormier the following officers were elected:

President—Dr. C. K. Fuller, Yarmouth, N. S.

Vice-President—Dr. H. W. Kirkpartick, Halifax, N. S.

Secretary-Treasurer—Dr. E. I. Glenister, Halifax, N. S.

Executive:—Dr. L. G. Holland, Halifax, N. S.

Dr. H. F. Sutherland, Sydney, N. S.

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Secretary-Treasurer

A person who eats a great deal of food is not necessarily well nourished unless his diet is well balanced to provide the proteins, vitamins and minerals required for maintenance of a healthy body.

People who are allergic to certain substances often suffer actual pain or discomfort when skin, respiratory system or digestive organs are effected. Tests made by the doctor will help to discover the offending substance and, in most cases, treatment will help to allay trouble.

Nutritionists consider that the average person requires 12 milligrams of iron daily. Good supplies of iron may be found in one cup of prune juice (4.3 milligrams); egg-and-tomato salad (2.5 mgms); two peaches 1.2 mgms.) and two slices of whole wheat bread (1 mgm.) One serving of pork liver contains the whole day's iron ration.

During the past four years tuberculosis has dropped 31% in Canada. Early diagnosis through chest X-rays is given most of the credit for this improved figure. By discovery in the earliest stages, treatment can be given and cures usually achieved.

It is an economical move to substitute fish, eggs, cheese, peanut butter or dried beans for the higher-priced meats. These alternates are lower in price and are rich in proteins, minerals and vitamins.

Whooping cough and diphtheria are preventable by immunization of children. Every youngster should be protected in infancy against these often fatal diseases and should be given a "booster" dose when starting school.

Comments on a child's physical characteristics, whether complimentary or otherwise, may develop a sense of self-consciousness that could become permanent. Too frequent comment upon his height, weight or other features embarrass the youngsters and tend to cause shyness in many children.