Vol. XXX No. 11

The Nova Scotia Medical Bulletin

Official Organ of The Medical Society of Nova Scotia Canadian Medical Association Nova Scotia Division.

NOVEMBER 1951

Published on the 20th of each month and mailed to all physicians and hospitals in Nova Scotia. Advertising forms close on the last day of the preceding month. Manuscripts should be in the hands of the editors on or before the 1st of the month. Subscription Price: $3.00 per year.

It is to be distinctly understood that the Editors of this Journal do not necessarily subscribe to the views of its contributors.

1. Manuscripts should be typewritten, on one side only of the paper and double spaced.
2. Should proof be sent to a contributor, corrections must be clearly marked and no additional matter added, and the proof returned promptly.
3. Orders for reprints should accompany the proofs.
4. Communications should be sent to the Secretary, Dr. H. G. Grant, Dalhousie Public Health Clinic, Morris Street, Halifax, N. S.
5. Please mention the Bulletin when replying to advertisements.

Conservative Measures In Occlusive Arterial States

J. Arnold Noble

Camp Hill Hospital, Halifax, N. S.

THE nutrition and the functions of the extremities of man depend upon a constant flow of arterial blood through a system of blood channels. Nature has providently arranged for a functional reserve in this vascular tree, the smaller peripheral components of which serve a fundamentally use role in the regulation of body temperature. These reserves are of special interest to the physician; they are his ally. The mobilization and development of the collateral circulation may be the only possible successful manoeuvre in aiding the victims' struggle against the strangling effects of arterial obliteration.

What happens when these reserves are inadequate? Considered from the aspects of nutrition, we find: atrophy, superficial skin lesions proceeding to chronic ulceration and gangrene, and ischaemic neuritis.

Atrophy is most readily observed in early cases by carefully inspecting the pulp tissue in the terminal parts of the toes. The skin presents a wrinkled appearance.

The indolent and chronic infection around the nail bed is notorious as an example of unsuspected avascularity; the injudicious attack by the surgeon's scalpel has been the elucidating incident in a deplorable number of cases of obliterative arterial disease coming under our observation within the past few years.

The pain in the foot that awakens an apparently healthy young man in the middle of the night, and for which he obtains no relief until he promotes more active circulation, is familiarly known as a rest pain. Sir James Learmouth (1) explains this feature as an ischaemia of sensory nerve endings, and he finds accompanying evidence of it in a disturbance of sensory function, particularly a diminution in light touch and light pin prick.

In respect to the functional impairment, the prominent feature is claudication, a cramp-like pain felt in the calf of the leg with exercise. This phenomenon of muscle cramp in a state of ischaemia has been known for a long time. The explanation accepted today attributes the pain to the accumulation of chemical metabolites within the muscle that is impoverished of its blood supply. (2). Typical of claudication is the subsidence of pain within a few minutes of cessation of muscular contraction, and this knowledge is most useful in making a diagnosis. A patient with leg pain who requires up to one-half hour or more of rest from walking, before experiencing relief, is almost surely not suffering from pure claudication.

A further functional deficit may be seen in the disturbance of sensation. Tingling, numbness and coldness, and particularly a hypersensitivity to cold, become bothersome complaints, and cause the patient to seek medical advice.

The physician has made his provisional diagnosis after hearing the story, and now on examination he finds diminished or absent peripheral pulsations, lowered oscillometric readings, and cold atrophic feet. With the light of a good window behind him, he has the patient elevate the legs and quickly flex and extend the toes. This manoeuvre causes rapid blanching of the sole of the foot and toes. He knows there exists an unfavorable arterial balance, and his clinical experience warns him of the unfavorable prognosis. With the possible exception of acth or cortisone, there is nothing that he can do to reverse the obliterating process within the blood vessels, or to clear out the clogging end products of the tissue reaction, as his garage mechanic does with his plugged fuel lines. He turns then to other resources in order to maintain the flow of fuel to the living parts. He considers nature's own reserves, the collateral circulation, and he cultivates this friend and ally with every method available.

Sir James Learmouth (3) has shown that to successfully establish the collateral circulation around a blocked vessel, two principles must be considered: 1.—As large a volume of blood as possible should reach the arteries by maintaining the maximum dilatation of the main arterial trunk and the terminal branches of the main trunk, and, 2.—the arteries must be kept widely dilatated so as to increase the volume of blood reaching the capillaries. In addition, he stresses the importance of maintaining adequate blood volume and adequate blood pressure in order to ensure the required flow through the capillary bed. There is a time limit to the survival of ischaemic tissues.

Blood may be prevented from returning to the main trunk or the terminal branches of the main trunk, distal to the obstructing lesion in the artery, because of arterial spasm. This is a difficult condition to counteract, and it is well to remember that the simple release of vasoconstrictor tone through an attack on the sympthetic nerve supply is not always successful. Recent investigations by Kinmonth (4) at St. Bartholomew's Hospital have indicated that papaverine hydrochloride, 10%, when applied topically to the spastic artery, has been the most reliable agent to succeed in promoting dilatation. This is a useful procedure in traumatic cases or when the vessels are exposed at operation, as in performing an embolectomy.

If the obliterating process is an acute one such as an embolus in the femoral artery, or a sudden thrombosis in the popliteal artery, there is the danger of consecutive thrombosis developing and further obliterating the main channels and gradually encroaching upon the openings of the collateral vessels. To prevent this the anti-coagulants such as Heparin, Dicoumarol or Tromexan should be promptly administered, when the necessary laboratory facilities are available. More commonly, the arterial obstruction is a gradual one and the collaterals gradually enlarge to keep pace with the obliterating process in the larger vessel.

The small subcutaneous vessels in the hands and feet are peculiar because of their power to contract and to dilate. This function forms a part of nature's thermoregulatory mechanism, in maintaining a constant body temperature, dilating to dissipate undesired heat and contracting to prevent undue body chilling. By heating uninvolved portions of the body, the arteries and capillaries in distant parts undergo reflex dilatation, and thereby bring a maximum

volume of blood to parts which may be in a state of ischaemia. This objective may be achieved in a variety of ways, the simplest of all being the immersion of the arms in water maintained at a temperature of 43 to 45°C. This reflex vasodilatation can be maintained for hours at a time without any appreciable lowering of blood pressure. Another method worth remembering is the continuous epidural injection of procaine solution into the caudal canal. This is particularly of value when there is an associated vasospasm in the arteries of the legs. (5)

The same principle, in a mild and general character, is observed by maintaining the patient at rest, in a warm environment, well fed, as quietly relaxed as possible. Alcoholic drinks may be indicated in selected cases, when administered under appropriate circumstances, for their effect in promoting peripheral vasodilatation. It is important to exercise concern in respect to sleeplessness. This is usually due to severe rest pain and when present the condition mitigates against the full vasodilatation which the physician is striving to achieve. Codeine or even morphine may be required.

As a corollary to these simple measures one naturally is mindful of the opposite and harmful effects that follow exposure to cold environment, and in particular, when the hands and feet are inadequately clad in the colder weather. Unfortunately, we continue to encounter examples of the harmful effects of heat applied locally to feet and toes threatened with gangrene. Where the balance is already unsteady, this heating of the parts with hot water bottles and the like, thereby increasing the metabolic demands beyond the power of the impaired circulation to meet, may be the inciting cause of the onset of progressive gangrene.

The search continues for drugs which may be helpful in providing peripheral vasidolatation. Hydergine, (Sandoz), is said to have a central action, producing a general decrease in vascular tone. Another group of drugs, penthamethonium iodide (C. 5) and hexamethonium iodide (C. 6), probably exert their influence at the neuromuscular junctions in the peripheral arterial walls. In addition to producing a moderate fall in blood pressure, these drugs have been known to cause an increase in the blood flow through the subcutaneous vessels of the lower limbs. Butylsympatol is a drug the pharmacological action of which is thought to effect a stimulation of vasodilator nerves. In the tests carried out in Professor Learmouth's Clinic, there were hopeful indications that this drug might be of benefit in improving the blood supply to ischaemic muscles (6).

Vitamin E. has not been discarded entirely although its use is controversial. In the Manchester Neurovascular Clinic it was emphasized that treatment should involve large doses of the ac-tocopherol and that from four to eight weeks of delay should be expected before improvement is noted. Their investigations were carried out chiefly on cases of intermittent claudication. It may be possible that trials with this agent have been unsatisfactory because of inadequate dosage or insufficient duration of treatment (7).

Intermittent venous occlusion, using an apparatus which causes a pressure of 35 to 40 mm. Hg., with alternating periods of two minutes on and two

minutes off, has been found useful when the patient complains of rest pain. I recently encountered two cases of sudden onset of severe ischaemia of the lower part of the leg. There were no pulses and the limb in each case was cold and lifeless. The condition followed immediately upon the operation of lumbar ganglionectomy (the operations were performed in different hospitals). In one of these, a young female, amputation below the knee was required. In the other, a middle aged man, marked improvement was obtained through the use of this type of treatment.

Postural Exercises of the Buerger-Allen type are well worth persisting with. Dramatic results should not be anticipated within a few days, and failure to note improvement within a week has often convinced the patient to give up this form of treatment. This is a mistake, and it is often found that it is this type of patient who will also refuse to give up his smoking. There is nothing more irreversible than amputating a leg, whether it be for pain or threatened gangrene or any other reason. In this circumstance the challenge to the physician's persuasive skill is seldom surpassed.

A large number of patients with chronic and progressive obliterative arterial disease complain of claudication pain only. With this group the indication is to decrease the muscle requirements, for it is now well established that sympathectomy and other measures usually fail to increase the supply of blood to ischaemic muscles. In the few cases where a lumbar ganglionectomy has been successful in increasing claudication distance, it may be assumed that the obstructing lesion had been in the femoral or external iliac artery, and that the opening up of available collaterals had enabled the blood to return to the distal part of the main arterial stem.

In many of these cases the patient may be taught to walk with a stiff ankle, inhibiting the use of the calf muscles. In others, assistance in securing this objective may be obtained by fitting the patients' boots with an orthopaedic iron with a "check" to prevent plantar flexion. Professor Learmouth performs neurectomy of the motor nerves to the soleus and gastrocnemius with less enthusuasm than formerly, in his attempt to diminish the demands for blood supply. Increasing experience has revealed that the patient soon complains of muscle cramp elsewhere, usually in the foot. The same criticism holds for the operation of tenotomy of the Tendo-Achilles, a procedure advocated and practiced by Professor Boyd of Manchester.

There is at present no specific cure for the various types of obliterating arterial disease. If the victim is to remain a biped he must observe a compromise, sacrificing certain aspects of his normal activity; furthermore, he must enthusiastically engage in the regimen of efforts designed to promote the flow of blood to hungry tissues through alternative channels. The popular and dramatic operation of sympathectomy has its place, but where calf claudication is the chief complaint, it is necessary to use caution in foretelling relief of symptoms. Other less formidable procedures can be used to develop the collateral circulation. When the existing collaterals are suddenly dilated by severing the nerve supply subserving vasoconstrictor tone, there is less stimulus of natural character to evoke this response. A sympathectomized limb can-

not respond to reflex vasodilatation, and it may be the wiser course to delay this operation until the natural and physiological responses have been fully stimulated.

1.—Learmonth, Sir James—Pain in Peripheral Vascular Disease, The Practioner, 163: 445, 1949.

2.—Ratcliffe, A. Hall.—Clinical Grades of Intermittent Claudication, Engiology. 1: 438, 1950.

3 & 6.—Learmonth, Sir James.—Collateral Circulation, Natural and Artificial Surg., Gynec., and Obst., 90: 385, 1950.

4.—Kinmonth, J. B.—Personal Communication.

5.—Reuben J. Eugene.—Continuous Lumbar Sympathetic Block for Vascular Diseases of the lower limbs, Annaes of Surgery, 131: 194, 1950.

7.—Ratcliffe A. Hall.—Vitamin E. in intermittent claudication, Lancet, Dec. 17, 1949. p. 1128.

The Bacterial Infections of the Skin*

By Denis R. S. Howell, M.R.C.S., L.R.C.P.

PART II

THE COMMON PYODERMAS*

NOW that the main principles involved in the bacterial infection of the skin have been dealt with, it is proposed to describe briefly the commoner clinical manifestations of these infections, and to discuss the principles of treatment.

1. **The Impetigos**: (a) Impetigo vulgaris is described by Andrews as a staphylococcus or streptococcus inflammation of the skin, characterised by discrete thin-walled vesicles and bullae, which rapidly become pustular and dry, forming loosely adherent golden crusts. However most clinicians recognize two distinct clinical and bacteriological entities. One of these, the staphylococcal variety, has bullous lesions and is referred to by some authors as "annular" impetigo; the other, the streptococcal variety, has lesions consisting of stuck on crusts (the latter variety is known as "sigilliform" impetigo). However, whereas the so-called staphylococcal variety frequently yields staphylococcus pyogenes alone on culture, the "streptococcal" variety invariably yields haemolytic streptococci in addition to staphylococci.

Whereas impetigo vulgaris most commonly occurs on the exposed parts, notably the face, a very superficial staphylococcal infection occurring on any site on the body is still impetigo.

Before discussing the treatment of this variety of impetigo the general principles of treatment by topical applications of superficial pus infections of the skin should be considered. Certain desirable criteria for local applications have recently been summarised by Sulzburger and Baer in an excellent leading article in the 1950 edition of "The Year Book of Dermatology and Syphilology." The properties listed in Figure 2 are desirable for any therapeutic substance applied to the skin, not only in the treatment of bacterial infections, but in the management of any dermatoses. With the discovery that the sulphonamides and certain antibiotics were effective against a wide range of the organisms usually responsible for superficial pus infections of the skin, it was inevitable that these substances should be used in the treatment of the pyodermas. To this extent the sulphonamides and antibiotics fulfil the first requirement of this list. However within a short time of the introduction of these substances we became aware of the dangers of sensitization and we have now arrived at the point where the sulphonamides have fallen into complete disrepute. Most dermatologists agree that these substances should not be used at all as topical therapy, and rarely systemically. Various authorities report percentages of sensitization as high as 25% of all cases treated. In the case of penicillin this figure is quoted as from 10 to 25%. The index of sensitization is very low in the infant, low in the child rising in adolescence to reach

*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.

EIGHT CARDINAL PROPERTIES OF AGENTS FOR EXTERNAL USE AGAINST INFECTIONS OF THE SKIN

(AFTER SULZBERGER AND BAER)

1. WIDE SPECTRUM OF EFFECTIVENESS AGAINST CAUSAL ORGANISMS.

2. LOW ALLERGENIC POTENTIAL (I.E. LOW SENSITIZING CAPACITY)

3. LOW LOCAL PRIMARY IRRITANCY OR LOCAL TOXICITY.

4. LOW SYSTEMIC TOXICITY ON EXTERNAL APPLICATION, EVEN WHEN REPEATEDLY APPLIED TO LARGE AND DAMAGED AREAS, AND EVEN IN INFANTS AND CHILDREN.

5. NOT USED OR NOT ESSENTIAL FOR SYSTEMIC ADMINISTRATION.

6. STABILITY IN SUITABLE VEHICLES AND CONTAINERS, AND UNDER ORDINARY RANGES OF TEMPERATURE.

7. ACCEPTABILITY TO USERS. (NOT "MESSY" NO STINK, STING, OR STAIN)

8. NOT TOO EXPENSIVE.

FIGURE 2

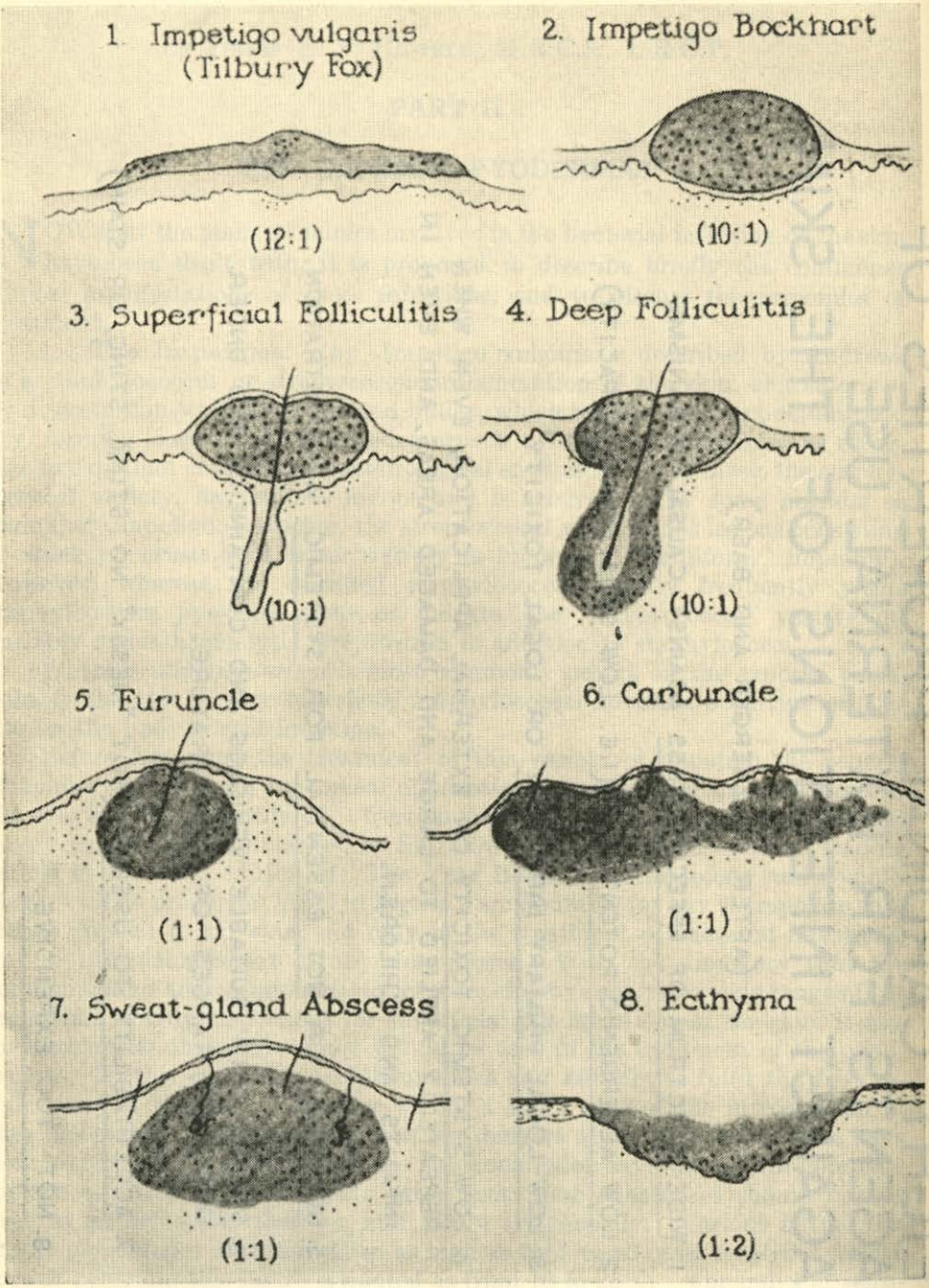

FIGURE 3

Diagrammatic Representation of Histologic Site of eight Common Pyodermas. Shaded areas represents Pus and Necrotic Tissue; Black dots, relative numbers of Leucocytes. (From a book by Darier and Jadassohn).

its peak in adult life. This accounts for the fact that these substances can be used on the skin of infants and children with relative impunity, but there is a danger that their use early in life may sensitize the patient, thus producing most undesirable effects when the individual is exposed to the sulphonamides or antibiotics later on in life. In this regard attention is drawn to item 5 in figure 2, namely the question of the possible systemic use of these substances in the management of diseases. It may be of vital importance that a patient should run no possible risk of sensitization to a substance such as penicillin topically, for such sensitization might mean that he may be unable to tolerate pencillin when it is needed for a more serious illness later on. It is of course established that sensitization occurs much more readily from topical application, either to the skin or mucous membranes, than by systemic use.

In addition to the cardinal principles listed it is of course imperative that any treatment should be carried out without undesirable damage to the skin. This brings us naturally to the question of one of the oldest forms of treatment in impetigo, namely the removal of the crusts. Some of my readers will readily remember the days when this was the major factor in the management of impetigo contagiosa. All too often was prescribed a line of treatment which necessitated a screaming child being held down by six relatives, while a seventh vigorously plied a scrubbing brush to remove the crusts. The resultant bleeding and oozing breaks in the skin surface afforded an excellent mode of entry for the offending organisms. While it may still be desirable at times to remove some of the crusts when they become very much heaped up, this manoeuvre should only be carried out with extreme gentleness, and should not be persisted with if any difficulty is encountered. The use of the wetting agents and other penetrating substances in the modern ointment allows the drugs employed to reach the parts of the skin in which they may be of most use.

In addition to the removal of the crusts and their imprisoned micro-organisms, the other main objectives in the treatment of impetigo contagiosa are, firstly, the killing, inactivation, or removal of the causal organisms; and secondly, the prevention of spread of the eruption to new sites. In impetigo more than in any pyoderma even the mildest antibacterial agents, such as soap and water, or plain petrolatum, will "cure", provided they do not irritate and interfere with the skin's self-sterilising power. Conversely, even the most powerful antibacterial agents will only prolong the disease if they sensitize or irritate the skin, and thus reduce its capacity to resist spread or recurrence of infection, or inoculation of fresh sites. The main differences between the older forms of therapy and the newer highly specific agents is the speed with which the spread of the eruption is checked and the individual lesion is cured, *provided the new remedies do not sensitise or irritate.*

Following the listed cardinal advantages, at present Bacitracin ointment and Aureomycin ointment are preferred. In the treatment of some hundreds of cases of superficial pus infections of the skin with Bacitracin ointment sentitisation has yet to be encountered. This antibiotic has the added advantage that it is not used systemically and therefore the occurrence of sensitisation would not deprive the patient of a valuable means of defence against systemic infection. Three to ten percent ammoniated mercury ointment, Vioform ointment, or Quinolor ointment are all extremely efficient in the average case of impetigo, and should be employed in the occasional case resistant to the anti-

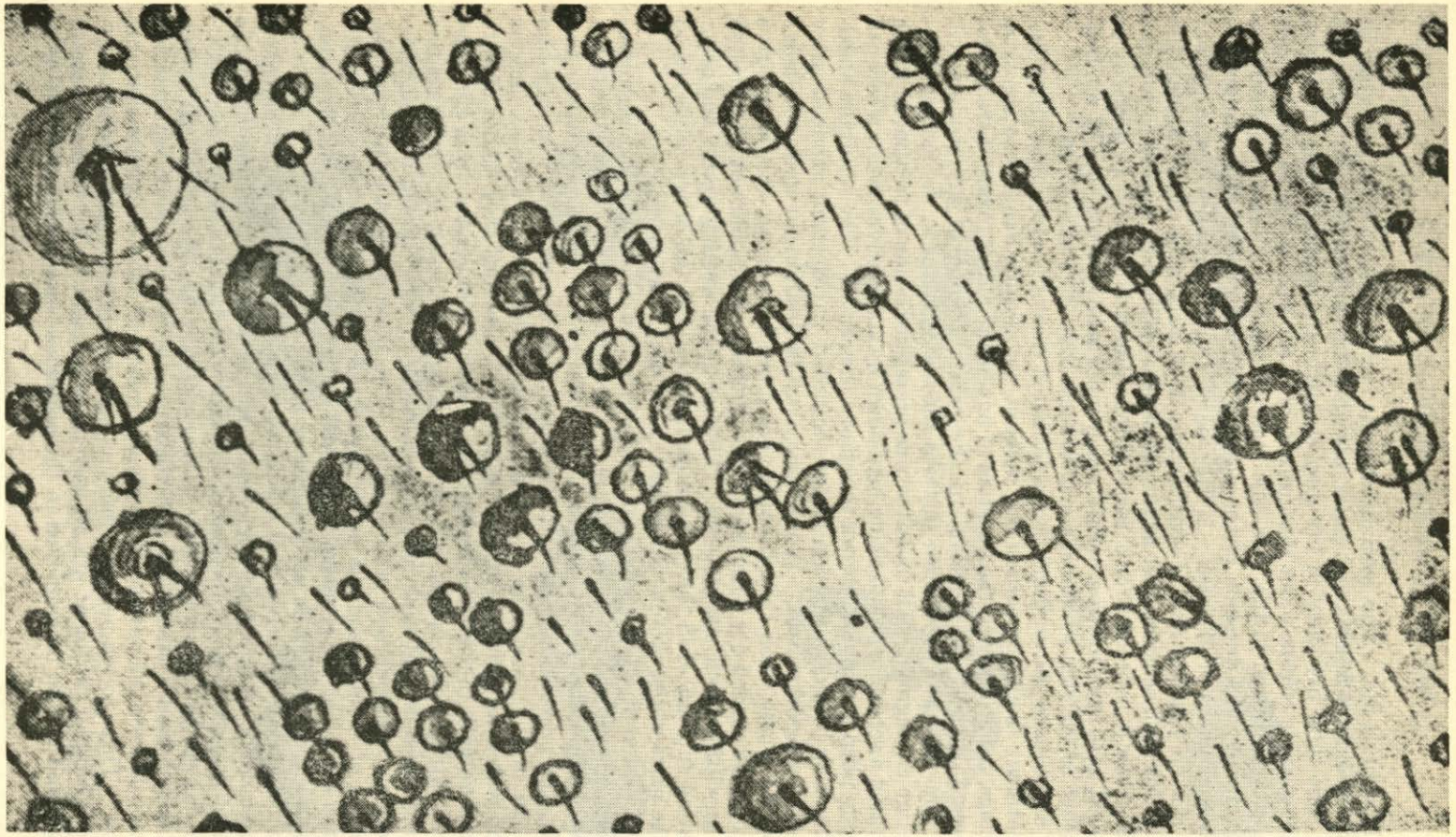

FIGURE 4

Impetigo of Bockhart (Diagrammatic Representation)

biotics mentioned. Both Terramycin and Neomycin have been reported as extremely effective in almost all varieties of superficial bacterial infections of the skin, by many workers.

When impetigo affects the bearded areas it is important to deal with the disease quickly and without irritation, in order to prevent development of chronic folliculitis of the bearded area, or sycosis vulgaris. The treatments of choice for these conditions will be dealt with later on.

Except in the bearded areas or other heavily hairy regions, and provided no sensitisation or irritant dermatitis is produced, the average case of impetigo under modern treatment will usually produce evidence of satisfactory response within one to three days. The time necessary for complete cure usually is three to five days. Sulzburger remarks that although three to five days was about the time required to cure the average impetigo with properly used older remedies (including the mercurials, sulphur and salicylic acid, Vioform and Quinoline), impetigos which last for several weeks, as sometimes seen in former days, are now most uncommon. In the extremely rare cases of impetigo in which there is no speedy satisfactory response to topical therapy, systemic antibiotic therapy can be added. This includes penicillin by injection, or aureomycin chloromycetin or terramycin by mouth.

Finally, it should be remembered that some cases of impetigo are not as simple as they at first appear. Cases of impetigo or furunculosis in the region of the face or neck in children commonly occur secondarily to infestation with pediculosis capitis, and cases of impetigo or follicilitis of the trunk often complicate scabies. Most dermatologists agree that in these cases the secondary pus infection will not respond to treatment unless the primary infestation is first eliminated.

(**b**) **Impetigo of Bockhart.** (See Figure 4) This is a superficial pustular peri-folliculitis clinically often indistinguishable from superficial follicilitis. Figure 4 shows a diagrammatic representation of the distribution of the infection. The condition commonly occurs on the extremities and on the scalp, and is sometimes extremely obstinate and resistant to treatment. The latter should begin with careful opening of the pustules and extraction of the hairs from their centres. The subsequent treatment is essentially the same as described for impetigo vulgaris. However when Bockhart's impetigo affects the lanugo hairs or glabrous skin a drying lotion is often preferable to an ointment or a cream.

For example:—

Resorcin		2– 3%
Precipitated sulphur		5%
Zinc oxide, Talc	aa	15
Glycerine		10
Alcohol, Water	aa	35

(**c**) **Impetigo of the New-Born.** This is the condition which was formerly known as pemphigus neonatorum. It is of course, a variety of bullous impetigo occurring in new-born infants, and before the introduction of

sulphonamides and antibiotics it was generally fatal. Owing to the peculiarities of the infant's skin, almost all forms of impetigo are highly auto-inoculable, as well as readily transmissible to other infants. In addition such conditions, well tolerated by older children and adults, can be serious or even fatal in the new-born and the young infant. Thus infants who have impetigo, together with all their clothing and bedding, and if possible those nursing impetigo patients, must be kept from contact with other infants. In every case topical, and if necessary, systemic therapy, must immediately be instituted.

Vesicles and bullae are the characteristic lesions of infantile impetigo. Treatment should start with the removal of the blister tops under aseptic precautions, if the number of the lesions is not great. Lotions or powders may be better tolerated on the skin of the infant than ointments or creams. For example, 3% Vioform in talc is a very efficient remedy, but in the average case it should be augmented by one of the antibiotics systemically. Cleansing the skin with one of the newer "antiseptic" detergents is particularly suitable for the handling of impetigo in the new-born. Perhaps the one in most general use is the Winthrop-Stearns preparation Phisoderm with hexachlorophene (or "G.11").

2. **Ecthyma**: Ecthyma is an ulcerative type of streptococcus dermatitis usually affecting the lower extremeties, being similar to impetigo, but more deeply situated.

Ecthyma commonly occurs in the lower legs, and whenever lesions do not respond readily and rapidly to topical therapy, measures must be taken to improve the circulatory condition, and thereby increase local resistance of the skin to local infection. These measures include the elevation of the legs by blocks under the foot of the bedstead, and the use of compression bandages and occlusive dressings. Under those dressings should be one of the bacteriostatic or bacteriocidal preparations, and in these days that usually means one of the antibiotics, but of course one must be on the lookout for possible skin irritation or sensitisation. In many cases the systemic administration of the antibiotics may be found essential before the condition is brought under control.

3. **Superficial Folliculitis**: The treatment of this condition depends to some extent on the location of the eruption. Where the extremities of women and children and other non-hairy persons are affected, it is usually best to apply drying applications such as lotions, these being less messy and macerating than greasy and occlusive ointments. However on areas such as the scalp, the nape of the neck, the bearded area, the axillae and the pubic region, tinctures or watermiscible creams should be prescribed. The pustules of superficial folliculitis contain very small amounts of pus, and the advantage of surgical drainage of the lesions is offset by the risk of possible infection of the adjacent hair follicles. Cleanliness of clothing and of the person is imperative, and articles of wearing apparel which come into direct contact with the affected areas should be changed regularly. It is often well to replace regular toilet soap with the soaps or detergents containing an antiseptic, such as Phisoderm with "G. 11," which has already been mentioned.

Among the watermiscible creams and ointments for folliculitis are those containing aureomycin, Bacitracin, Quinolor or Vioform. The Ciba preparations of Vioform ointment and cream are often the treatments of choice

despite their staining properties and relatively low antibacterial action against staphylococci and streptococci.

Treatment of folliculitis must be continued for at least one to two weeks after cessation of clinical activity in order to prevent recurrence of the eruption, and this is especially true if systemic treatment is employed. However when folliculitis persists, the causes or contributory factors must be sought. These include in addition to such diseases as the blood dyscrasias, diabetes obesity, certain drugs, excessive sweating, and internal foci of infection, suc local predisposing factors as dirt, friction, excessive sweating due to occupation, exfoliation after sunburn, parasitic infestations and other forms of dermatitis. In addition to these, one occasionally runs into such occupational and industrial hazards as exposures to oil, tars and pitch, and chlorine. Finally, in the occasional case the avoidance of certain foods will hasten recovery from an obstinate folliculitis. These foods include chocolate, nuts, fish, (especially shellfish), certain cheeses, pork, fried and fatty foods.

(d) **Deep Folliculitis: and Sycosis Vulgaris.** Sycosis vulgaris is a chronic perifollicular pustular infection of the bearded and other heavily haired areas. When it occurs in the beard area it is popularly known as "barber's itch." Although the pyogenic staphylococcus is the most frequently found organism on culture, Sulzburger and other workers are not satisfied that the infection is by any means always due to the staphylococcus or streptococcus. In longstanding cases cicatricial changes are pronounced, and the condition can be a most distressing, incapacitating and sometimes incurable affection. The disease may affect other short haired areas such as the eyebrows, eyelashes, axillae, pubis and thighs. Focal infections or muco-purulent discharges, as from the nostrils, or direct infection from shaving, may cause the eruption, expedially in individuals of low resistance.

The differential diagnosis of sycosis barbae sometimes presents some difficulties, and perhaps the condition most closely stimulating it is tinea barbae. The latter rarely affects the upper lip, which is a common location for the bacterial variety. In tinea barbae the involvement usually is in the sub-maxillary region or on the chin, the eyelids and eyebrows being free from the disease. The lesions are either superficial scaly patches, or circumscribed nodular boggy swellings. The ringworm fungus is demonstrable on microscopic examination of scrapings, pus, or infected hairs. Ringworm of the beard is usually a more inflammatory process of shorter duration than is sycosis vulgaris.

Sycosis and the other deep forms of folliculitis are treated along the same general lines as superficial folliculitis, but present certain difficulties of their own. One of the most vexed problems to decide is whether the patient is to shave or not to shave. If shaving is persisted with, the risk of inoculation of new areas with bacteria is obvious. However most dermatologists agree that even worse may happen if the patient does not shave; pus, crusts and hair often become matted, sometimes to an astonishing degree, and prevent topical remedies from dealing with the offending organisms, which multiply unchecked. Therefore except in the exceptional case in which shaving has been proved to be prohibitively irritating, it is better to advise patients to shave even those bearded areas involved in the eruption, while taking measures to impede spread of the infection due to shaving. These include the application of the antibacterial ointment over the bearded area both before and after shaving.

The antiseptic detergent should be used for washing the face and a shaving cream containing a modern antiseptic is advantageous. (For example—Gillette Shaving Cream with G. 11). It is not proved that shaving with an electric razor presents any advantages. Between each shave the razor and shaving brush should be sterilised by boiling, and a new blade used for each shave.

As to the choice of shaving soap it is of interest that in the writer's experience about 80% of the patients who present themselves with sycosis barbae, have previously been shaving with the shaving-bowl type of soap, or a shaving stick. In view of the usually accepted bacterio-static properties of soap it is perhaps surprising that actual experiments have proved that pathogenic bacteria will survive readily for periods of twenty-four hours or more on the bowl type of shaving soap.

Daily manual epilation of hair from all visibly involved follicles is a useful adjunct to the other methods of treatment of folliculitis of the beard.

Of the topical applications the writer has had most experience recently with Bacitracin ointment, with very favourable results. Other most efficient remedies are Aureomycin ointment, Vioform ointment or cream and compound Quinolor ointment, although the latter is irritating to a certain number of patients. The New York school speak very highly of the use of liquor calcis sulphuratae or Vleminckx' solution. If one is dealing with the type of patient who believes that a treatment must be unpleasant to be efficient, this solution must be one of the most effective available to us. It smells strongly of sulphuretted hydrogen, and most dispensers agree that it should only be prepared in some such spot as Sable Island, preferably with an off-shore wind!

(e) **Furuncles and Furunculosis.** A furuncle is an acute round tender circumscribed peri-follicular abscess, usually staphylococcal, which generally ends in central suppuration. No matter how numerous or persistent, ordinary furuncles are not due to infection from within, but to external inoculation of the individual follicles. It is thus obvious that systemic administration of antibiotics is in most cases inadequate for cure, and must be supplemented by correct local and external therapy. A few intramuscular injecjections of penicillin usually lead to temporary inhibition of the eruption, but there is often a prompt recurrence after cessation of therapy. It is obvious that where central necrosis exists the penicillin cannot be carried by the blood stream to the centre of the infected area.

Surgery has long been an obsolete form of treatment for the ordinary furuncle or carbuncle. Nevertheless once the furuncle has become "ripe", a nick at the apex may assist early drainage and restore some measure of comfort to the patient.

Injection of penicillin or Bacitracin solution directly into the furuncle is sometimes effective in dealing with small lesions. Obviously the preparation used should be an aqueous solution of the antibiotic. The writer recently saw a patient on holiday from the United States, who had been suffering from furnunculosis of the nose, and some presumably well-meaning physician had injected penicillin in oil and beeswax, with a most unfortunate result.

Hot wet compresses are still among the best forms of treatment for furuncles. Boric acid solution, or saline solution, are perhaps preferable to Burow's solution, on account of the tendency of the latter to produce maceration.

In persistent cases which do not respond to local treatment systemic antibiotics may be used. These include the use of such preparations as penicillin 300,000 units daily; Aureomycin, Chloromycetin or Terramycin by mouth in doses of from four to twelve capsules daily. In stubborn cases the identification of the offending organism by culture, together with an estimation of the sensitivity of the organism to antibiotics, may facilitate cure by the selection of the appropriate antibiotic.

In furunculosis, perhaps more than in most superficial pus infections, the use of antiseptic detergent solutions for washing the skin is particularly acceptable. Where multiple lesions are present medicated antiseptic baths, such as weak potassium permanganate, are sometimes helpful.

An important part in the control of the spread of furunculosis may be frequent changing of underwear and clothing, with laundering where applicable, and daily dry cleaning of coat collars and other clothing.

Furunculosis can be among the most persistent and disabling of skin conditions. The individual with recurrent boils is not always the object of sympathy, and frequently of derision, as in James Whitcombe Riley's poem:—

"There's a boil on his ear and a corn on his chin,
He calls it a dimple, but dimples stick in."

(7) **Carbuncles**: Carbuncles are circumscribed inflammations of the skin and subcutaneous tissue with a separation and sloughing in multiple points apparent on the surface.

While radical surgical management in the form of large incisions in several directions is generally outdated and unnecessary, it may sometimes be advisable to drain areas of softening and necrosis.

In addition the use of antibiotics, both systemically and topically, as in the case of furunculosis, may cause the most protruberant of lesions to subsibe.

(g) **Sweat Gland Abscesses.** Many of the so-called "sweat gland adscesses" probably involve not merely the ordinary sweat glands but also the pilo-sebaceous structure and the apocrine glands. Their management is essentially the same as that for furuncles. However the friction between the skin surfaces and the tendency to maceration are complicating factors.

Complete immobilisation of the arm by carrying it in a sling is indicated in cases which do not respond readily to topical and systemic treatment. In addition the avoidance of any suspected irritants or sensitizers, such as dress shields, clothing dyes, depilatories and deodorants is necessary. These suspected or proved irritants must be discontinued until several weeks after all lesions have healed.

Before application of topical medication in the axillae the hair should be carefully shaved.

The fact that no deep axillary abscesses occur before the age of puberty and that in some patients menstrual or pre-menstrual exacerbations take place, suggests the influence of sex hormones. However no effective hormonal therapy is as yet available.

(h) **Otitis Externa**: Probably the majority of cases of external otitis are not pyodermas, although in most cases infecting and pyogenic microorganisms play some part as secondary invaders. Seborrheic dermatitis and

psoriasis are most prominent among the dermatoses which commonly tend to extend into the ear canal. In the so-called fungous infections of the ear it is very rarely that one is able to discover and identify pathogenic fungi.

Obviously then the management of external otitis includes firstly, the control of secondary infection and secondly, the treatment of the underlying dermatosis. Where infection is believed to be a major factor its control should be achieved as rapidly as possible. Eczematous sensitisation to infectious micro-organisms is a relatively common occurrence in cases of otitis externa, this resulting in the so-called "infectious eczematoid dermatitis." In addition to this possible sensitisation to products of micro-organisms, this type of eruption often leads to increased susceptibility to allergic sensitisation to contact allergens, including some of the most commonly employed and effective topical agents, including particularly penicillin and streptomycin.

In the treatment of external otitis a solution of 500 units of Bacitracin in 1cc. of water can be used once daily, for rinsing the ear canals, using a medicine dropper. A useful supplement to this treatment is the twice daily use of ear drops containing 500 units of Bacitracin in 1 cc. of 70% of alcohol, or a wick saturated with the same solution.

Where there is a great deal of oedema of the externa of the auditory canal, much oozing and acute inflammation, wet compresses with 2% aqueous solution of boric acid, 70% alcohol, or 1–10,000 aqueous solution of potassium permanganate are most useful in overcoming the acute inflammation.

When the infectious element of external otititis does not respond promptly to this treatment, systemic treatment as indicated. Once the infectious elements of external otitis have been controlled, treatment for the underlying or secondary dermatitis can be instituted, and the Quinoline derivatives such as Vioform or Sterosan are almost ideal in this phase.

* * * * * *

Finally a few words about the use of superficial X-ray therapy in the management of bacterial infections of the skin.

In dealing with the obstinate case of sycosis barbae it sometimes becomes necessary to produce artificial depilation of the skin by the use of X-rays. X-rays are also sometimes useful in dealing with other varieties of pyodermas, notably carbuncle and furunculosis, although their mode of action is not firmly established. However where we are dealing with a recurrent type of pyoderma there is always a temptation for X-ray treatments to be repeated or continued to the point where they will produce undesirable results, namely radiodermatitis. Such treatment should be administered only by specialists trained in the use of this modality in treatment of skin diseases.

Shakespeare remarked that "diseased nature often times breaks forth in strange eruption." We have seen how the most efficient way of dealing with these strange eruptions is to assist nature herself to restore the status quo. Any treatment however efficient may be its bacteriocidal or bacteriostatic properties will fail if we disregard the effect of the treatment itself upon the skin, this "fortress built by nature for herself against infection."

*REPORT OF CANCER COMMITTEE OF THE MEDICAL SOCIETY OF NOVA SCOTIA

In order that the Society may be informed to some extent of the Cancer situation in this Province your Committee has collected data on 500 cases of cancer patients treated and or examined during the year 1950. These consisted of Ca. of Breast, 54; Ca. of Cervix, 68; Ca. of Skin, 120; Ca. of Lip, 57; Ca. of Mouth, 20; Ca. of Ovary, 20. Hodgkin's Disease and Leukaemia, 22; Miscellaneous, 139. The leading groups, namely Ca. of Breast, Cervix, Skin, Lip, Mouth have been analyzed.

Cancer of the Breast

Stage, early 25, advanced 29.

Biopsy in 52.

Average duration between the discovery of the lesion and first consultation four months.

Average time between first consultation and treatment 11.5 months.

Average age 52. Ages range from 29 to 91 years.

The tumour was in all cases accidently discovered by the patient. This fact is further evidence that more early lesions would be found if women could be educated to palpate their breasts at regular intervals. The time between consultation and treatment is long. This seems to be caused by temporizing measures in very small and doubtful lesions; although some patients were found who disregarded the advice of their physicians and delayed operation until the tumours became large. It appears essential that in every case of a tumour of the breast or other clinical changes such as abnormal bloody discharge an immediate attempt should be made to make an accurate diagnosis. If doubt remains the lesion should be removed and submitted for pathological examination. Some 200 deaths from Ca. of the breast were reviewed. The clinical history of these patients shows very clearly the difficulty of prognosis in cancer of the breast.

Early cases are found often with lesions of nodular size in which after radical treatment develop metastasis and die in from 6-12 months. In contrast advanced cases with metastasis may live for several years. Two patients who had advanced lesions with metastases to the spine are alive and well after fifteen years.

Cases are not infrequent in which metastases are present before there is clinical evidence of the primary lesion. Even the Pathologist is not able to determine accurately from his examination whether a given tumour will metastasize.

The reason why individuals respond so differently to malignant lesions even of the same cell type is one of the most interesting problems in the study of cancer.

This resistance, impossible to assess in any given case, often proves the deciding factor regardless of the treatment used.

*Read at the 98th Annual Meeting, Antigonish, Sept. 7, 1951.

The time is not far distant when with more refined bio-chemical methods of examination than are at present available the cause of this resistance factor will be found.

Cancer of the Cervix

Early 8, advanced 52, recurrent 8, average age 52.
Average duration of symptoms at first consultation 8 months.
Average time between consultation and treatment 6 weeks.
The very small percentage of early cases is notable and improvement in this respect has not occurred.

In this as in most malignant conditions the symptoms which earliest brings the patient for treatment is pain, and as pain is not often an early symptom in this lesion it is not surprising that so many advanced cases are seen.

Bleeding and discharge which may give no concern to the patient during menstrual life are the most frequent early symptoms and often associated with advanced lesions. It is observed that examinations of patients at the first consultation are often postponed on account of vaginal bleeding. This practice results in the loss of valuable time.

A survey made a short time ago showed that in the so-called early lesions which had been operated upon some 50% showed parametrial involvement and 16% extension to glands.

It would appear that the clinical diagnosis of early invasive cancer of the cervix is difficult. In order to improve this condition periodical pelvic examinations with vaginal smears particularly in women in and past the menopausal age would lead to the recognition of early cases before extension has occurred.

All other factors being favourable it should be possible to cure most cancers confined to the cervical canal.

Cancer of Lip and Mouth

Patients 67. Average duration before consultation 21 months; average age 65.5 years. In 400 patients with Ca. of Lip, 61% had lesions of more than 26m in diameter.

Although lesions of the lip are so obvious the delay in consultation is long and the proportion of advanced cases high. Here again the absence of pain is the most important factor in preventing the patient from seeking early advice. The chances for cure are good except in large infected lesions.

Cancer of Skin

120 patients. Average duration before consultation 27 months. Average age 65. Range 23-90 years. The long duration before consultation is largely on account of the absence of pain and the fact that so many of these lesions exist as keratoses and other precancerous conditions for long periods.

Hodgkin's and Leukaemia

22 patients. There has been an increase in this group.

Summary: The average duration of symptoms at first consultation for all patients reviewed is 14 months.

There has been no appreciable improvement in this respect since your Committee's previous report. The need is seen for continued sound and simple cancer education based on the facts known about cancer at the present time.

It has been observed that treatment intended for palliation only is frequently not understood by patients or relatives and the ultimate failure to cure serves to reflect discredit of the methods used and is the cause of much harmful criticism. It would seem desirable when surgical or other treatment is used solely for its palliative value that this is clearly explained to the relatives concerned.

Your Committee has been asked for advice as to the need of a central institution for the care of incurable patients.

One hundred and thirty patients classified as incurable were questioned in this regard, near relatives when available were also interviewed. Of this number only twenty-four felt the need for institutional care but only eight were prepared to enter a central institution.

It would seem that there is at present no need for a central institution for incurable cancer patients. Arrangements for the special care of these patients should be made in their own communities. Further investigation is however desirable.

The Committee wished to acknowledge with thanks the assistance given by The Department of Public Health and Dr. Nichol in the tabulation.

(Sgd.) S. R. Johnson, Chairman
V. O. Mader
H. R. Corbett

COMMITTEE ON TRAUMA
AMERICAN COLLEGE OF SURGEONS

The Care of Hand Injuries*

IV

LACERATED WOUNDS

I **Protection of the Hand** (Abstract of Article I)

The first-aid care of wounds of the hand is directed fundamentally at protection. It should provide protection from infection, from added injury, and from future disability and deformity. The best first-aid management consists in the application of a sterile protective dressing, a firm compression bandage and immobilization by splinting in the position of function.† No attempt should be made to examine, cleanse, or treat the wound until operating room facilities are available.

II **Requirements of Early Definitive Treatment** (Abstract of Article II)

Early definitive care requires thorough evaluation of the injury with respect to its cause, time of occurrence, status as regards infection, nature of first-aid treatment and appraisal of structural damage. For undertaking the definitive treatment the conditions required are a well-equipped operating room, good lighting, adequate instruments, sufficient assistance, complete anesthesia, and a bloodless field. Treatment itself consists of aseptic cleansing of the wound, removal of devitalized tissue and foreign material (exercising strict conservation of all viable tissue), complete hemostasis, and the repair of injured structures, to be followed by protective dressing to maintain the optimum position. After-treatment consists of protection, rest and elevation during healing, and early restoration of function by directed active motion.

III **Surface Injuries** (Previously circulated)

IV **Lacerated Wounds**

Lacerations may damage skin, fat, fascia, muscles, tendons, tendon sheaths, blood vessels, nerves and, more rarely, joint or bone. The treatment of such injuries has four objectives:

1. Protection from infection.
2. Restoration of structures.
3. Avoidance of deformity.
4. Early restoration of function.

*Note:—This is the fourth of a series of articles on The Care of Hand Injuries. This material is prepared by the American Society for Surgery of the Hand and is distributed by the Committee on Trauma, American College of Surgeons, through its Regional Committees.

‡Position of function or position of grasp: wrist hyperextended in cock-up position; fingers in mid-flexion and separated; thumb abducted and in mid-flexion, with tip pointing toward little finger.

These objectives are furthered by proper first-aid care, as outlined in I (**Protection of the Hand**) and by definitive treatment.

A—Definitive Treatment

To be undertaken only under the proper conditions and according to the principles outlined in II (**Requirements of Early Definitive Treatment.**) Careful history of the injury should be followed by examination of the hand to determine:

(1) Location and extent of the wound.
(2) Source of major bleeding.
(3) Presence of foreign material.
(4) Function of tendons, to be tested *against resistance.*
(5) Function of intrinsic muscles.
(6) Condition of nerves as regards both sensory and motor functions.
(7) Integrity of bone and joint.

Following anesthetization of the patient and application of hemostatic blood pressure cuff (not to be inflated above 300 mm), definitive treatment of the wound consists of:

(1) Thorough cleansing of wound region and then of entire hand and forearm with soap and water or bland detergent.
(2) Removal of foreign material from the wound.
(3) Careful, gentle, thorough, but conservative excision of devitalized tissues, sparing all structures that may survive.
(4) Repeated cleansing of wound by irrigation with warm normal saline solution.
(5) Securing and ligation of divided blood vessels.

These general measures are followed in appropriate cases by repair of damaged structures. Proper wounds for this repair are:

(1) Those in which infection has not become established.
(2) Those not grossly contaminated by highly infective material.
(3) Relatively clean wounds not more than three or four hours old.

In general, wounds not fulfilling these criteria are better left unrepaired to await secondary closure and later reconstructive surgery. They should, nevertheless, be as carefully cleansed of foreign matter and dead tissue as are those prepared for primary closure. In such cases severed nerve ends may be identified with nonabsorbable sutures or lightly united.

Repair of damaged structure:

(1) Nerves
    a. All severed nerves should be repaired, including the digital nerves.
    b. Fine arterial silk on fine needles should be used, accurately approximating the nerve ends by small interrupted

sutures placed around the periphery. These sutures should include only the perineurium, not the nerve bundles. It is important to avoid axial rotation, particularly in nerves having both motor and sensory function.

c. Nerves are to be distinguished from tendons, especially at the wrist, by their anatomical position, softer texture, pinker color, small surface capillaries, and distinct nerve bundles seen on cut ends. Pulling on a nerve will not flex a finger.

d. Nerves should be handled gently, never crushed, rubbed, or allowed to become dry.

(2) Tendons

a. All severed tendons should be repaired, including the tendons of intrinsic muscles.

An important exception to this rule concerns flexor tendons severed within the flexor sheath or in the digital flexor canal. Primary suturing of the flexor profundus in this location rarely succeeds in restoring useful function even if the flexor sublimis is removed. Suturing both flexor sublimis and profundus in this area almost invariably results in failure. Should even minor infection occur, failure is assured. With rare exceptions, it is sound practice to repair the skin and digital nerves only, leaving the flexor tendons for secondary reconstruction when severed in this region.

b. Nonabsorbable sutures of silk or wire are used accurately to approximate the severed tendon ends after they have been cleanly squared off with a sharp knife.

c. Additional incisions to secure retracted tendon ends should follow flexion creases. They should be curved or transverse, never longitudinal, and never in the palmar or dorsal midline of a finger.

d. Tendons should be handled gently; never crushed, rubbed, or allowed to become dry.

(3) Muscle

a. Severed muscles should be lightly approximated with interrupted mattress sutures, avoiding tension and constriction.

b. Muscle thus repaired should be alive, contractile and vascular, all devitalized shreds being trimmed away.

Following these procedures, the hemostatic blood pressure cuff is released to permit identification, control and ligation of bleeding vessels. The field should be dry before closure of the wound.

(4) Fascia

Severed fascial and ligamentous tissue should be repaired with interrupted mattress sutures, avoiding tension.

(5) Subcutaneous tissue

Subcutaneous fatty tissues may be lightly approximated with interrupted fine sutures.

(6) Skin

The skin should be closed with fine, nonabsorbable sutures.

(7) Dressing

Firm pressure dressing is applied, the fingers being separated, with gauze between them. The hand is immobilized by splinting in the position of function, except when suture of severed tendons requires splinting in a position to insure the least strain on their suture lines. If nerves have been severed, the position of function is particularly important to prevent deformity due to contracture of active muscles when their opponents are denervated and paralyzed.

B—Aftercare

(1) Antibiotics and tetanus antitoxin (or toxoid) are administered systemically as prophylaxis against infection.
(2) The extremity is kept elevated for the first three or four days.
(3) Dressings are not removed for several days, usually one week, unless infection develops.
(4) The healing of severed tendons and nerves requires three weeks of uninterrupted immobilization.
(5) When nerves are severed, corrective splinting is necessary until reinnervation of paralyzed muscles has occurred.
(6) Restoration of function is best secured, after healing, by directed voluntary exercise and appropriate occupational therapy.

Registration

98th Annual Meeting The Medical Society of Nova Scotia. September 10, 11, 12, 13, 1951. Antigonish, N. S.

Dr. M. G. Tompkins, Dominion
Dr. J. S. Robertson, Halifax
Dr. Allan R. Morton, Halifax
Dr. H. F. McKay, New Glasgow
Dr. D. M. MacRae, Halifax
Dr. D. F. Macdonald, Yarmouth
Dr. J. C. Wickwire, Liverpool
Dr. Henry Reardon, Halifax
Dr. A. G. MacLeod, Dartmouth
Dr. J. R. Macneil, Glace Bay
Dr. E. T. Granville, Halifax
Dr. G. R. Forbes, Kentville
Dr. H. F. Sutherland, Sydney
Dr. A. E. Blackett, New Glasgow
Dr. M. J. Chisholm, New Waterford
Dr. R. O. Jones, Halifax
Dr. L. M. Morton, Yarmouth
Dr. H. P. Peel, Truro
Dr. P. R. Little, Truro
Dr. H. D. Lavers, Truro
Dr. C. K. Fuller, Yarmouth
Dr. E. M. Worden, Montreal, P.Q.
Dr. H. B. Havey, Stewiacke
Dr. W. J. MacDonald, Truro
Dr. S. G. MacKenzie, Sr., Truro
Dr. A. D. Roach, Moncton, N. B.
Dr. F. J. Barton, Dartmouth
Dr. W. R. Barton, Halifax
Dr. W. A. Murray, Halifax
Dr. C. L. Gosse, Halifax
Dr. S. R. Johnston, Halifax
Dr. G. Victor Burton, Dartmouth
Dr. A. F. Weir, Hebron
Dr. C. B. Smith, Pictou
Dr. R. H. Sutherland, Pictou
Dr. C. G. Harries, New Glasgow
Dr. M. J. Fitzgerald, New Glasgow
Dr. Ian E. Mackay, Stellarton
Dr. F. J. Granville, Stellarton
Dr. R. A. MacLellan, Rawdon Gold Mines
Dr. A. Gaum, Sydney
Dr. J. J. Stanton, Pictou
Dr. E. I. Glenister, Halifax
Dr. S. Marcus, Bridgewater
Dr. H. G. Grant, Halifax
Dr. H. J. Devereux, Sydney
Dr. G. C. Macdonald, Sydney
Dr. R. H. Fraser, Antigonish
Dr. J. J. Carroll, Antigonish
Dr. C. N. MacIntosh, Antigonish
Dr. G. R. Deveau, Arichat
Dr. J. A. Roach, New Waterford
Dr. J. W. Reid, Halifax
Dr. J. S. Munro, North Sydney
Dr. H. J. Davidson, North Sydney
Dr. R. C. Griffin, Antigonish
Dr. A. L. Sutherland, Sydney
Dr. H. A. Giovannetti, Sydney
Dr. H. B. Church, Alymer East, Quebec
Dr. Glenn Sawyer, St. Thomas, Ont.
Dr. R. B. Miller, Pugwash
Dr. A. A. Macdonald, Neil's Harbour
Dr. H. B. Ross, Halifax
Dr. Gordon F. Mack, Halifax
Dr. H. R. Corbett, Sydney
Dr. G. M. Smith, Windsor
Dr. T. B. Murphy, Antigonish
Dr. O. C. MacIntosh, Antigonish
Dr. N. F. Macneill, Sydney
Dr. S. W. Williamson, Yarmouth
Dr. H. B. Colford, Halifax
Dr. R. A. Moreash, Berwick
Dr. D. G. McCurdy, Sydney
Dr. W. I. Bent, Bridgewater
Dr. D. W. Archibald, Sydney Mines
Dr. G. M. Fraser, Mulgrave
Dr. R. C. Fraser, Antigonish
Dr. C. B. Pierce, Montreal, P.Q.
Dr. R. M. Benvie, Stellarton
Dr. G. H. Murphy, Halifax
Dr. A. L. Murphy, Halifax
Dr. A. W. Titus, Halifax
Dr. E. P. Nonamaker, Halifax
Dr. C. B. Greene, Sheet Harbour
Dr. G. R. Douglas, New Glasgow
Dr. C. C. Stoddard, Halifax
Dr. D. F. MacInnes, Shubenacadie
Dr. D. R. MacInnis, Kennetcook
Dr. D. MacMillan, Sheet Harbour
Dr. Eric W. Macdonald, Reserve
Dr. J. A. MacCormick, Antigonish
Dr. C. L. MacMillan, Baddeck
Dr. J. H. Charman, Halifax
Dr. M. M. Davis, Halifax

Dr. W. Alan Curry, Halifax
Dr. H. L. Stewart, Halifax
Dr. G. J. LeBrun, Bedford
Dr. J. A. McDonald, Glace Bay
Dr. C. P. Miller, New Waterford
Dr. E. S. Bishop, Kentville
Dr. & Mrs. R. Sers, Goldboro
Dr. T. H. Earle, Upper Stewiacke
Dr. J. G. B. Lynch, Sydney
Dr. B. F. Miller, Halifax
Dr. T. E. Kirk, Halifax
Dr. J. E. Hiltz, Kentville
Dr. D. R. Sutherland, Yarmouth
Dr. A. M. Siddall, Pubnico
Dr. P. O. Hebb, Dartmouth
Dr. G. G. G. Simms, Halifax
Dr. J. G. Cormier, Sydney
Dr. H. R. McKean, Truro
Dr. H. M. Coleman, Toronto, Ontario
Dr. W. M. Roy, Halifax
Dr. T. B. Acker, Halifax
Dr. D. F. MacLellan, New Glasgow
Dr. C. H. Young, Dartmouth
Dr. H. J. Martin, Sydney Mines
Dr. A. E. Murray, Halifax
Dr. J. A. Noble, Halifax
Dr. C. H. Smith, Truro
Dr. R. S. Shlossberg, New Glasgow
Dr. N. J. MacLean, Inverness
Dr. C. E. Stuart, New Glasgow
Dr. G. F. Day, New Glasgow

GOLF WINNERS AT ANTIGONISH

Low Gross—1st—Dr. A. W. Titus.
2nd—Dr. L. M. Morton.

Low Net —1st—Dr. C. K. Fuller.
2nd—Dr. J. H. Charman.

High Gross—Dr. W. R. Barton.

High Net—Dr. H. J. Devereux.

Lowest score par 3's—Dr. E. P. Nonamaker.

Lowest score sealed holes—Dr. H. L. Stewart.

Best dressed golfer—Dr. W. Alan Curry.

Golfer farthest away from home—Dr. E. M. Worden.

Divot digger—Dr. R. C. Fraser.

Last to finish—Dr. J. C. Wickwire.

Society Meetings

The annual meeting of the Antigonish-Guysborough Medical Society was held on October 10, 1951, at St. Martha's Hospital.

The first portion of the meeting was devoted to business. The annual reports of the Secretary-Treasurer, Doctor J. J. Carroll, were received. The meeting then elected officers for the year as follows:

Honorary President—Doctor W. F. MacKinnon.

President—Doctor R. H. Fraser.

Vice-President—Doctor J. A. MacCormick.

Secretary-Treasurer—Doctor O. C. MacIntosh.

Executive—Doctor R. Sers, Doctor R. C. Griffin, Doctor C. N. MacIntosh.

Civilian Defence Liaison—Doctor O. C. MacIntosh.

Executive Committee of The Medical Society of Nova Scotia—Doctor J. J. Carroll and Doctor J. A. MacCormick.

The second portion of the meeting was devoted to an extremely interesting address by Doctor R. M. MacDonald of the Dalhousie Staff on "Functional Disease of the Gastro-Intestinal Tract." Doctor MacDonald appeared under the auspices of the Dalhousie Post-Graduate Education Department.

(Sgd.) O. C. MacIntosh, M.D.
Secretary.