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The Unfathomable Strength of Canadians

"I'm a lumber jack and I'm all right."

— Monty Python

How fit do we think we are? Since Prince Philip made some whimsical remarks about the health of the average Canadian, since we heard of the prowess of the ageing Swede, since Canada was invaded by the world's best athletes, our society has responded. There are pockets of activity all around. Men and women of every age are busy participating; joggers decorate our parks, our streets and even our graveyards; families cavort together in cross country skiing expeditions; tennis courts are busy and even a new game like racquets flourishes. It still remains, however, the reaction of a minority, but the spark has been kindled.

The contrast between these zealots and the majority of us is striking. All around we see people who are obese, short of breath, poorly coordinated, paunchy and just not interested in physical fitness. In our most popular national sports we are content to be spectators. Most of our athletic programs in school and university are organized on a competitive eliminating system that selects the most aggressive and relegates the rest to being supporters.

An analysis of the fitness of the nation is difficult to find. Even the value of the standard tests of fitness are disputed. The basic Canadian home fitness test is based on careful measurement of the pulse rate after specific exercises. A relatively simple procedure it has been criticized as inaccurate and misleading by Cumming — an expert in this field. None the less, several studies promise to reveal the situation — strongly suggesting that Canadians (perhaps because of our high standard of living) are unfit. In British Columbia over 3000 people were tested using this test and over 80% of the men and women were classified unfit. Of 1235 government employees, 400 showed significant coronary risk factors. Those who have these abnormal stress tests are twelve times as likely to have an "adverse coronary event."²

A more extensive study³ in progress is the Canadian Health Survey which will include coronary risk factors, the health state of well people and patterns of use of health care. It is hoped that the results will be available this year.

The cost of unfitnes is enormous. It is estimated that 2.5 million Canadians are currently suffering from coronary artery disease and that 9 billion dollars is dispersed annually for lost time and salaries of executives whose sickness was attributable to unfitnes.

With increasing unemployment and extended leisure time available, we have the prospect of even more disuse disease. "Hard work never killed anyone" was the old Victorian ethic but today we can't all work around the clock and we have to adapt to the changed circumstances.

In this issue, we are fortunate to have excellent contributions from the Department of Physical Education of Dalhousie University. They bring a number of positive suggestions. Education is the keynote and philosophy the touchstone.

Sport in all its forms is for the enjoyment of all and not just an outlet for primitive instincts — a war substitute. Dr. Pooley covers the subject "Violence in Sport" very thoroughly. It is a serious problem in which the medical profession can give guidance. Years ago Eric Nicol⁵ wrote "Europeans continue to interpret hockey as a game in which the players play the puck whereas every Canadian player knows that the true purpose of the game is to hook, spear, or clout an opposing player till he loses all interest in anything but a donor of the same blood group!" Perhaps a little unfair.

Violence has crept into almost every sport. Strangely enough, boxing, the most pugilistic of all sports is one of the best regulated sports. So this shows what can be done by responsible coaches and officials.

Amateur sports and recreation can play a vital part in helping many of our patients. Many handicapped people are nowadays enjoying a wide variety of activities. Sports for the blind are booming, amputee swimmers are multiplying and riding for the disabled is flourishing. The Flying Wheels of Nova Scotia have established an international reputation by their participation in the Canadian wheelchair sports in basketball and track and field. The stamina and skill of some of these handicapped athletes is outstanding — viz. the 2 hour 40 minute wheelchair run by Bob Hall⁶ of the US in the Boston Marathon last year.

Physicians need to recognize the indications of these pursuits. They need to refer the obese, the alcoholic, the depressed, the injured to the appropriate agency. Professor Reynolds emphasizes the physician's part in making specific recommendations. Professor Hoyle explains the part played by competition in our lives and he stages of fulfilment that sport can bring. Finally Professor Ellis tells us what athletes are made of and how they cope.

Physiological studies can now complement the assessment of each individual, his state of fitness and his potential.

They can give guidance for training of athletes and the education of coaches. They have been applied to highly trained superstar soccer players, wheelchair athletes and hockey players and athletes all over the world. Modern science, technology, nutrition experts, elaborate sports facilities can all add to our quality of life but they are no substitute for the basic formula of lifestyle — wholesome food, sufficient exercise, a spice of stress, and a lack of overindulgence in the luxuries of life.

Does it all sound very dull? Well we've got a long way before we can compete with the Mexican Indians of Sojauhahuache State Chihuahua, who regularly run 100 miles daily, on a diet of corn beans with calorie value of 1500.

Perhaps we should all throw away our cars and start walking, running, or bicycling. □

B.J.S.G.

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Improving Leisure Lifestyles

The Physician's Role

Peter A. Witt,* Ph.D.,

Ottawa, Ontario.

Situation: A physician gives advice concerning potential beneficial leisure patterns for a patient recovering from cardiac problems.

Situation: A physician consults with the parents of an asthmatic child and recommends appropriate leisure activities.

Situation: A physician refers an overweight patient to a social worker, occupational therapist, psychologist, or recreation specialist for counselling, regarding alternative leisure attitudes and behavior patterns.

Recently doctors have begun to undertake their full responsibility in the diagnosis, referral and counselling phases of improving health via changes in lifestyle including the area of leisure. As knowledge of psychosomatic illness increases, physicians should become more aware of the concomitants of health that go beyond traditional prescriptive medicine. It is incumbent upon them to increase their knowledge of patients' overall lifestyle and personality, self-perception, leisure patterns and overall adjustment. Failure on the part of the medical profession to deal with the social, psychological and physical implications of medical problems will leave patients in a void with respect to significant guidance in these critical areas.

There are at least three general roles which the physician may play in the area of leisure. These are diagnosis and referral; counselling; advocacy and support.

Diagnosis and Referral: The need to refer to professional leisure personnel.

Referral will have to go beyond the traditional bounds of chemo-therapy, conventional surgery, or other primarily medically-based procedures. In order to gather additional diagnostic information about broader aspects of social, psychological and physical functioning, the physician will have to make referrals to suitable social service and health personnel. This will involve a much wider group of professionals, agencies and settings than ever before.

Counselling: The need to advise on what leisure agencies are available.

In some cases it may be desirable for the physician himself to do actual "leisure counselling".** Because of the trust developed between the patient and the physician, and the need to avoid deleterious shuttling of an individual between professionals, the physician may wish to advise patients

about potential leisure patterns leading to tension reduction, weight loss, and increased fitness. This includes giving information about leisure resources in the community (such as the local municipal department of parks and recreation or YM/YWCA, or local special interest sport and arts clubs, e.g. karate or painters guild). Pamphlets about local leisure opportunities may supply much needed information and social contact. This changes the physician role beyond the traditional one of advising "take a rest or vacation".

Advocacy and Support: The need to support and advocate for the development of leisure facilities and opportunities.

Because of their involvement in the diagnosis, referral and counselling functions, physicians may become aware of deficits in community leisure program opportunities. This knowledge may put them in a particularly advantageous position to advocate the need for better leisure opportunities to fulfill needs for patients they are serving. In the past, for example, some physicians have played a strong role in helping to establish wheelchair sport programs both in Nova Scotia and throughout Canada for the physically disabled. Once initiated, they have supplied the necessary support services to these programs via involvement in equipment design, athlete classification standards and training programs. Other examples where physicians have played an increasing role are in advocating the need for general community fitness programs, leisure services for senior citizens, and improved equipment design for a variety of sport programs. As professionals, as citizens, and as participants, physicians have a positive contribution to make to the development of needed leisure services in any community.

SUMMARY

The roles presented here include the physician as an important aspect of the leisure service delivery system. Because of the increasing problems of sedentary lifestyles, tension of daily living, and increased free time, the role of the physician becomes increasingly important in helping individuals achieve a pattern of daily experience that promotes positive mental, physical and social well-being. To undertake this expanded role, physicians will have to devote more time and energy to better understanding the leisure-health relationship, familiarizing themselves with available community leisure opportunities, and working in cooperation with other professionals in this field. These concerns should become part of the overall training of physicians and a subject for annual conferences and meetings, and publications. □

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See for example: Epperson, A., Witt, P. and Hitzhusen. **Leisure Counselling: An Aspect of Leisure Education. Springfield, Illinois: C_a as C. Thomas, 1977.

Beyond Participation

A View of Leisure and Health

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The well publicized "Participation" movement is probably the most visible evidence of the current concern for the relationship between leisure activity and the health of Canadians. Yet despite the benefits which large muscle movement may have upon the cardiovascular fitness of "participants", this orientation represents but one example of the positive impact which leisure services may have upon individuals. If one adopts the World Health Organization's view of health as constituting "a state of complete physical, mental, and social well-being", leisure services have many other implications for the preservation, promotion, and renewal of health.

LEISURE AND THE PRESERVATION OF HEALTH

Self-imposed risks or personal decisions occurring during one's leisure form an integral part of the concept of lifestyle. Examples of self-imposed risks deleterious to health include the excessive use of alcohol, pharmaceuticals, and psychotropic drugs and cigarettes in addition to lack of exercise. Factors outside the individual's control may also have a significant impact on the way he or she lives. "Future Shock" for example, characterized by the "disorientation, irrationality, and inability to cope with the environment" may result from a greatly accelerated rate of change in our society which alters our pattern of living. Recent trends such as job alienation, reduction in working hours and frequent changes in type of occupation, indicate that work will no longer provide the central meaning and activity in life for persons in industrial societies.

Personnel involved in providing leisure services play a vital part in counteracting both the self-imposed risks and external forces which threaten to exert a negative influence on the lifestyle and health of Canadians. Active leisure participation may provide a means of combatting potentially debilitating physical conditions such as obesity and coronary-artery disease, while many forms of leisure involvement may alleviate conditions associated with stress such as hypertension, coronary-artery disease, and peptic ulcers. Practices such as preretirement counselling and integrating leisure and career opportunities, are other means by which leisure service personnel could aid in reducing the incidence of emotional problems among the elderly. The professional charged with the provision of community leisure services represents a first line of defense in the prevention of health problems and a vital force in sustaining the healthy functioning of a large segment of our population.

LEISURE AND THE PROMOTION OF HEALTH

The role of the leisure service professional within

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residential centers for disabled persons is expanding beyond that of an activity planner. Specialists may be called on to provide any one or a combination of the following functions: community liaison, leisure counsellor, activity coordinator, outdoor education specialist, volunteer coordinator, and many others. Today in Canada, institutions (homes and schools for mentally ill and mentally retarded persons, rehabilitation centers, correctional facilities, extended care homes for the aged, and halfway house programs for drug and alcohol addiction treatment) are beginning to realize the advantages of employing leisure service personnel. These workers are becoming important members of teams comprised of physicians, nurses, psychologists, social workers, physio and occupational therapists.

LEISURE AND THE RENEWAL OF HEALTH

As a person's health cannot be considered completely restored until he/she is successfully reinvolved as a fully functioning member of society, the renewal of effective leisure participation in the community is important. Persons previously isolated from society in institutions must be prepared to use their leisure constructively after discharge. Failure to achieve this goal increases the probability that individuals may return to sheltered, isolated environments. Leisure counselling can be effective in aiding an individual to become reinvolved in everyday leisure activities. A pre-discharge familiarization of the client with existing community resources and a post-discharge assessment of the person's level of recreative functioning can be thoroughly recommended.

THE CHALLENGE TO LEISURE AND HEALTH SERVICE PERSONNEL IN NOVA SCOTIA

The coordination of leisure services designed to preserve, promote, and renew health represents a challenge in Nova Scotia and throughout Canada. Thanks to increasing understanding between individuals and municipal departments and agencies a continuum of leisure services should become available to all individuals whatever their functional level.

COORDINATED SERVICES

Examples of coordinated services in the renewal of health in Nova Scotia, are the Metropolitan Mental Health Planning Board and the Recreation Council for the Disabled. Representatives of municipal and provincial mental health associations, the Department of Social Services, institutions, and public recreation agencies, are united in an effort to provide a comprehensive system of community based leisure services for potential and ex-patients of mental health facilities. The provincially and federally supported Recreation

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Physical Skills and Competition

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Of all the "facts of life" which we tell children, one which we largely let them discover for themselves concerns competition and its consequence. Competition for toys, competition for playing space, competition in sports — all these are part of the daily routine.

In a competitive game between two parties, there is usually one winner and one loser. Similarly, in a race one winner is followed by those who lost in varying degrees. In the game, if a positive score is assigned to a win and an equal negative score assigned to a loss, then the sum of a win and a loss will be zero. Our society largely emphasizes success in sports and games, rewarding the victors with anything from a handshake to a fortune. Conversely, losers are penalized at the very least by expression of disappointment and withdrawal of attention. Thus, a value judgement has been placed on the outcome of the game, the happy endings being roughly balanced by the detrimental consequences of a game of "zero sum".

The effects of the result of a game are not confined to the players but spread in a modified form to parents, coaches, supporters, bettors and spectators. In a win-loss equilibrium, then, half of those involved in weekend sports (and the number is very large) may face the week on the negative side of the balance. Bad feelings, due to disappointments, social rewards or punishments make an unstable base for the week's work or school. Ideally, when a positive value is associated with a win, the value accompanying the corresponding loss, should not be equally negative, but should be such that an overall positive sum remains. This is one region where physical education can have some influence both as a professional body and through its individual members.

Abraham Maslow, former Brandeis University psychologist, neatly summarized some of the problems in 1954 by suggesting the existence of a hierarchy of needs essential to man's complete development:

1. physiological
2. physical security and safety
3. interpersonal association
4. esteem
5. self-fulfillment

Those needs at the beginning of the list should be satisfied or at least brought to terms before the later ones. For example, physiological needs such as hunger and rest may be considered as some of the basic goals of life, and must be taken care of before the need for safety and security. Considerations of order, routine, behavioral limits and physical security fall into the "safety" category. Practical examples are home owning, establishment of job security

and adherence to a comfortable life routine. Having ensured his survival and, in certain measure, established his continued physical comfort, man can look at others around him.

At this stage, he may feel a need for love, friendship and group membership. Subsequently, appreciation of one's person and abilities by others and particularly by oneself are the focus of attention. To be evaluated here are physical and intellectual achievements and limitations, job competence, peer and public reputation and recognition.

Satisfactory resolution of the first four needs leaves man no longer concerned with the mechanics of living or with finding his "place" in society. The need for self-fulfillment now emerges. This need, being of the highest level, is unique to each individual. Involved here is the development of personal human potential past the point of technical mastery into the realm of creativity. At this fifth level, the limits of one's skills may be extended by allowing personal expression to interact with skillful performance.

CONTINUUM OF SKILL

The broad field of physical education can play a part as the child develops skills and interests. The different rates at which various abilities develop may determine with which group of peers a child prefers to associate. The competitive element of physical activity assumes previous group selection and begins to have an effect at Maslow's fourth level. Competition of any sort, whether against another individual, against a standard, or as a member of a team, assumes that the participant has already demonstrated some ability to perform a skill and serves as a testing situation for measuring the level of skill attained. Such a test allows a person to identify his place on what may be termed a "continuum of activity skill". This information should enable the subject to identify either the level at which he would most enjoy further competition, or the nature of skills to be learned in order to achieve the desired level.

Accurate estimation of position on a "skill continuum" is important in the light of certain research results. Rainer Martens has shown that subjects perform to the best of their ability when their win/loss ratio is about unity. He also found, not surprisingly, that enjoyment of the competitive situation is greater when the wins exceed the losses. His results also showed that subjects gained considerable satisfaction from having opponents with a slightly higher skill level. Therefore, careful selection of opponent or minimization of the competitive nature of the activity is suggested.

Through intermittent but regular success, engagement in competition can contribute to esteem by both oneself and others. Nevertheless, the zero sum nature of a competitive situation tends to detract from the potential for esteem for the group of competitors as a whole. According to Donald Hellison, enhancement of self esteem has three major

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requirements: a non-threatening environment, unique treatment of the individual, and opportunities for success. Contests offer, on the average, opportunities for success about half the time. Reduced status or appreciation consequent upon losses, may be perceived as threats. A more direct and safer road to the enhancement of self esteem lies in mastery of the skills used in competition, rather than in the contest itself.

THE TEACHER'S TASK

The ingenuity, not to mention the patience, of the teacher may be heavily taxed in finding the best approach for each individual. The physical differences between people can be taken into account by changing the dimensions of equipment where appropriate, employing different levels of expectation, and guidance into suitable activity. Standards can be adjusted and skills taught in such a way that all participants achieve a certain measure of success. This implies that in the initial stages a very low skill level or standard of performance will be required. Although this may lead to early dissatisfaction by some skillful performers, this principle does insure that a class is built upon a basis of success. The disparity in skill levels within a class is a problem for the teacher who must estimate how far to increase the difficulty level of an activity in order to satisfy the more skillful members without depriving the less skilled of opportunities for success.

A continuum of skill implies that "units of skill" can all be broken down into parts, each having a lower skill requirement than the final product. The parts themselves can frequently be treated as units of skill in their own right. In Olympic gymnastics, for example, a handstand on parallel bars may be said to typify this attractive sport. Successful performance of this exercise assumes certain prerequisite skills and characteristics, some of which are enumerated below:

- Can your body weight be supported on your hands?
- Can you get up to handstand position?
- Can you get down safely?
- Are your wrists sufficiently flexible?
- Can you maintain orientation when you are upside down?

Each of these questions represents a specific problem associated with the final product and suggests certain activities to ensure their successful completion. Although performance of a handstand is frequently considered a task in its own right, the handstand position itself is a part of and, therefore, a prerequisite to many other gymnastic exercises, for example, the handspring, the cartwheel, the one-arm handstand and many vaults.

Almost everyone can find a skill level where he or she can at first be successful about half the time. Subsequent guided instruction and practice will increase the win/loss ratio, allowing progress along the "skill continuum" to a higher level. Each stage in this progress should be considered as a discrete unit of skill in its own right, with a recognizable point of completion. This allows several short term objectives to be rigorously defined and success to be recognized easily.

On this basis, then, competition serves only as a testing situation in order to measure technical competence. Technical competence itself becomes the prime aim. This should be independent of actual skill level, and in fact this principle is recognized in international gymnastics in which a small

percentage of points awarded in competition is reserved for what is termed virtuosity. These points may be awarded for easy or difficult exercises but are only awarded for technical execution beyond that normally seen.

Satisfaction at Maslow's fourth level, being, in this example, enhanced self esteem through mastery of physical skills at the chosen level of difficulty, may promote a return to the third level for renewed self-testing through the medium of physical competition. Eventually, an athlete may seek to test himself against objective standards, such as Olympic qualifying criteria. Attainment of a specified level of competence is recognized in gymnastics by conferring the honorary title of "International Gymnast" on all those who score 90% or more in World Championships or Olympic Games, whether they are first or last.

THE OUTSTANDING ATHLETE

Technical mastery of physical skills is frequently accompanied by reduced conscious involvement. The mind is freed for further activity, so that the effect of altering the technique without changing the intent or effect of the exercise can be studied. The performance may take on an expression which is unique to the performer himself. Ultimately, technical variations may lead an exercise away from its original intent until the movement becomes recognizable as a new exercise. International gymnastics also recognized this creative element by rewarding originality. When technical competence is such that personal expression is able to add to the performance, the artist not only puts something of himself into the performance but is himself enriched by it, thus operating at Maslow's fifth level, that of self-fulfillment.

SUMMARY

Competition is a facet of life. We learn about it by experience, sometimes painful. In most games there is a winner and a loser. Our society frequently honours the former while neglecting the latter.

Physical education can help us judge these values more fairly. After man's essential needs (food, security and individual relationships) have been met, development of individual skills in a particular sport may bring self esteem, acknowledgement by others, and could ultimately achieve a supreme moment of artistic fulfillment. A more likely and, indeed, more hopeful final outcome is that the provision of attainable objectives appropriate to the personal development of the individual will allow some degree of fulfillment for everyone. □

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Competition and Stress

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"New World" thought has long held dear the notion that determination, foresight and courage can lead one to victory in the struggle to live. The concept that hard work can carry one from obscurity to power is enshrined in many of our folklore beliefs. Sport has shared in this idea that hard training largely determines success.

Although some research on sport has suggested that participation sometimes affects the state of the individual athlete, the preponderance of the research on the traits of athletes show them unchanged by a long history of intensive competition. Athletes consistently exhibit different traits from non-athletes and it can only be concluded that usually athletes are "born not made".

The behavior of the athlete, although modified by modern training is essentially limited by the genotype. Height, mesomorphy, aerobic power, power generation, leverages and even adaptability to training are all largely determined by genes. Training is merely responsible for realizing performance potentials that pre-exist.

Success in sport requires extensive capacity to develop mechanisms to deal with the stress of intensive competition. Those without the appropriate personalities (or behavioral dispositions) are just as unlikely to perform well in competition as those with the wrong leverage mechanisms or inadequate energy transport systems.

What is important is to recognize that the genes contribute significantly, and are probably the major determinant of success.

THE MAKING OF AN ATHLETE

Preparation of high level athletes requires two separate endeavours: selection and training. In Western countries, selection has largely been left to the spontaneous forces of the original choices of individuals, the chance distribution of opportunities, and a rapidly narrowing field of knock-out competitions. There is little organized attempt to match individuals to sports on the basis of their existing attributes. Those countries with stronger central influence have been able to do better at pre-selecting individuals and channelling them into sports.

In Western countries training has received far more attention. Much of the work in the sport sciences deals with procedures for creating the ideal athlete. This orientation is clearly an outgrowth of the New World's ideology that choices stem from within each individual. The athlete chooses and the chosen sport acts as a change agent to develop that person towards the ideal for that sport. It is at that point that selection by competition begins.

THE PROCESS OF SELECTION

Since selection of appropriate personnel is so vital to the process of maintenance of intensive competition, it is important to speculate upon it and its effects on mental health. In some sports or some countries, there is strong base of support with well developed systems for capturing many of the young people in the society into the system.

The majority of young males in North America are at sometime involved in the organized competitive sport leagues. They skim off those from the population with the potential to serve at the next level of intensity of competition as they mature. By the time the youngsters are adult, only the very best qualified to participate are left, the majority having been eliminated. This 12 to 15 year process of elimination by the rigours of intensive competition winnows those people who can stand the stresses of competition. Figure 1 shows the effect of the different selective methods. It predicts that the survivors in Cell 1 cope well with the stresses since they are the survivors of a long process of selection and rejection on the basis of performance.

Participants in intensive competitions that have not been subjected to this process (those in Cell 2), are far less likely to possess all the critical elements necessary to withstand the process of intensive competition. Those sports that do not capture the attention and aspirations of all youth (for example in Canada diving, soccer, water-polo, cycling, etc.) cannot so vigorously eliminate participants. There are often barely enough to complete all the teams and competitions. In this case the organization must maintain the interest and devotion of all its participants and groom the few for the competitive opportunities. This means, of course, that many of the competitors arrive at the point of intensive competition poorly suited for the process. Nevertheless, our society is no less unforgiving of failure. It is on these people that the pressures of intense competition weigh most heavily. They often carry the same load of expectations, but with less athletic potential. It is among this group that the most serious mental health problems associated with competition can be expected.

In Cell 3, there are many who were rejected from participation in favour of the more gifted. In those sports with large population bases, and vigorous selection procedures, the majority are rejected. The costs of rejection are high and disillusioning, and I speculate are most damaging at the beginning and end of the process. The first rejection is difficult to explain to the eight year old who has been "cut" for the first time in his life, and only too easy to explain to someone who for eight to twelve years has survived every "cut", only to be removed from contention at the last moment.

Those rejected by sports with small population bases (Cell 4), are fewer so clearly represent absolutely a smaller debit, although individuals may well feel as injured by the process

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MODEL OF ATHLETIC SELECTION AND MENTAL STRESS		Potential Mental Health Problems in Sport People	
		Involved in Intensive Competition	Excluded from Intensive Competition
Athlete population Maintenance Procedure	Vigorous selection from large population of athletes via competition e.g. football	Cell 1 few	Cell 3 many
	Vigorous development of performance in small sample e.g. diving	Cell 2 many	Cell 4 few

FIGURE 1

as in any popular sport. However, not being selected for the diving team may well carry less social stigma for the young Canadian than being "cut" from a local midget hockey team. The stresses of rejection are rarely considered in weighing in the balance the contribution intensive competition makes to a society — there can be little doubt that it represents a massive debit.

As far as the participants in intensive competition are concerned, it is best to have survived a vigorous selection process, by virtue of the chance accumulation of genetic traits that predispose one to withstand the mental and physical stresses of intensive training and competition.

COPING WITH STRESS

The natural athlete selected by competitive elimination has presumably had many successful experiences in the process of performing a task under stress. Thus this person is likely to succeed and has not necessarily had to acquire "coping techniques" to deal with the situation.

Those participating in intensive competition without the beneficial side effects of vigorous selection by competition, but who are there by virtue of an effective development of their personal physical characteristics, are less likely to have the "coping strategies" to deal with the stresses of intense competition. These athletes run the highest risk of stress induced by competition.

Those rejected by the competitive setting have different stresses. The stress results from the inevitable necessity of dealing with failure to meet the coaches', the family's, and often the nation's pressures. Every athlete must learn to deal with failure. At each rung in the competitive ladder many are cast aside or limited, and for those who reach the top, it is only a matter of time before they too are unseated.

The prime "coping strategy" for these people is escape from the confrontation with failure. The dropout rate from active sport participation is horrifying to those who see sport as part of popular culture.

The other major "coping strategy" involves the competitors understanding of the setting, its standards for comparison and the outcome. It is essentially the personal assessment of the competitive setting, its consequences and the capacity to respond. It is this ability to redefine the competitive setting in individual terms that provides the most potent "coping strategy". The athlete can fail in the objective sense, yet experience success in realising personal and private goals. In other words, mentally healthy athletes compete against themselves.

SUMMARY

Athletes are born not made. The success of an athlete is decided by his genotype, although his performance may be modified by training. Training and work alone rarely achieve success.

Selection of an athlete may result from:

1. Intensive elimination from a wide group of individuals (football, baseball).
2. Vigorous training of individuals from small groups of enthusiasts (soccer, diving, cycling).

The individual's response to stress plays a vital role in his or her fate. Those selected by years of competition respond well to stress, but those rejected may suffer mentally. Those selected without this rigorous competition may be unable to meet the extreme stress of international competition, though they may develop different "coping strategies". A favourite way is to escape failure by accepting individual goals of achievement rather than attempting to become the world's best athlete and be doomed to failure. □

Violence in Sports

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Violent behavior by players and spectators has reestablished itself as part of the sport milieu in Western culture.³ While physical force is part of contact sports, it is often mis-used in the contemporary sports setting and when used to injure or abuse, it is termed violence.

There would appear to be a thin line between physical contact as part of a sport, and acts of physical aggression which are manifestations of violent conduct. Historically, violence has always been potentially part of sport, for as people have competed to determine a victor, violent physical force has been one of the means to achieve that end. However, as sports have evolved, those who have administered them have placed great emphasis upon methods to control how each sport should be practiced. Generally, therefore, violence has been kept in check.

As a result of a number of elements impinging upon each other, we are currently witnessing a period of heightened aggression which is symptomatic of societal norms, so that as one reporter has indicated, to lose the contest has become less acceptable than being banished from the sport for violent behavior. Against this backdrop, the purpose of this brief is to consider player violence, fan violence and the consequences of both.

PLAYER VIOLENCE

Player violence has become part of some sports; it is accepted, understood and predictable. Those closely aligned to sports are aware that in some, violent behavior, as defined, is practiced and allowed, although, strictly speaking, it is 'outside' the sport's rules. For example, boys who are seriously interested in pursuing ice-hockey as a vocation must expect, from an early age, to be involved in brawls to defend their and their team's honor, although as the best players keep demonstrating, aggressiveness leading to violence is not necessary to play the game well. Such aggressive acts have become part of hockey's milieu; specifically, behaviors which lead to high sticking, roughing, cross checking and tripping penalties are only moderately penalized, and are thereby accepted as an integral part of playing.

Whether violence occurs *within* the rules is debatable. The question is: When do physical contacts resulting from checking (hitting!) in ice-hockey, blocking in football, striking in boxing, throwing in karate, tackling in rugby and soccer become violent acts? Perhaps only the official decides, though the contestant who commits the act almost always knows when he intends to 'contact' his opponent in other than an acceptable manner. Accordingly, there would appear to be a continuous tension between players and officials who, together, ultimately decide what is fair contact and what is violence intended to injure or used as a tactic to nullify superior skill.

In this 'tension' between officials and player, the type of sanctions awarded become paramount in controlling violence. For example, spearing in ice-hockey, face mask pulling in football, high knee action in rugby scrums and tackling 'over the ball' in soccer could be almost totally eradicated if those who control those sports wished to do so; but it is debatable whether governing bodies of sports want to see these behaviors vanish entirely.

There are, likely, many reasons why these, as well as a whole range of other less violent acts, are currently tolerated. Probably the most significant is that, at all levels, winning has become the *only* reason why many people participate in sport. In many settings in western culture, extrinsic rewards have become the reason for participating; athletes have either forgotten or have never been seriously introduced to intrinsic enjoyment from taking part in sport. Consequently, players taking part at all ages, both as amateur and professionals, are under tremendous pressure to win.

This pressure stems from the coach (who continues to play the central role in almost all contests) parents, school personnel, members of the community and, in cases of international competition, Canadians as a whole. For professional athletes, added pressure stems from the money to be earned or contracted for as a consequence of successful (winning) performances. Violence is more likely to occur when its use constitutes the difference between winning and losing, as well as when officials are not strong, sanctions are not severe, coaches are not willing, or able, to control their players or urge them to break laws. Moreover, among males, some are affected by the machismo ethic in society. A punch thrown or a 'cheap shot' made requires an equally physical reaction, for many do not accept that *not* to retaliate is probably *the* most courageous response. Finally, increasingly, competitors provide what the fans want — a situation which is exacerbated by media influences.



Violence in sports. Is it part of the game?

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In summary, physical violence by players occurs on the court, field or rink both within as well as outside the laws. Pressure to win seems the main reason for its current high profile.

FAN VIOLENCE

Violent behaviors manifested by individuals or groups of spectators (fans) are directed toward three distinctly different groups of people. First, fans react to the players, officials and coaches taking part in the spectacle they observe; second, they react toward rival fans; and third, they react toward 'society' during periods of frustration or unhappiness while travelling toward or away from sporting contests. Much of the research and some theories explaining collective violence have been undertaken in the United States; however, studies of acts of current collective violence are largely centered on the sport of soccer in the United Kingdom — which British sociologists are now seeking to explain and subsequently offer suggestions for methods of eradication.

The escalation in current fan violence would appear to have many roots. Inter-fan aggression is made possible initially from a higher standard of living; that is having money to travel to 'away' contests means that large numbers of rival fans have an opportunity to interact—which was hitherto not possible. Since, in countries like England, fans stand herded together (except those who prefer and are able to sit in grandstands), their close proximity with each other makes physical altercations easier and yet harder to detect and control by law enforcement personnel. Behavior of these officials may be inappropriate (sometimes too lenient, sometimes too severe), while the sanctions imposed on offenders are thought to be ineffective (for example, a suspended sentence).

A change in behavior norms may well account for some of the current increase in aggression. Greater permissiveness may be the first stage leading to more obtuse behavior; disintegration of the family unit, with the resultant lack of parental guidance and instruction, together with the inability of educational and religious institutions to provide effective leadership in situations of student unrest, no doubt are important causes of an "I can do what I like" attitude. Officials allowing players to break laws without penalty, or being perceived by fans as making decisions favouring the 'other' team, or animated behaviors of coaches and players on the bench are also potential causes of fan reaction. Moreover, irresponsible reaction to violence by clubs, leagues and sport governing bodies is likely to contribute to increasing hostilities.

Fans may have a higher than reasonable expectation of their team's performance which, in cases of impending defeat or defeat itself, could lead to reactive behaviors. In this connection, the media must share the blame. Where the media dwell unduly upon violence in sport, as part of a preview or post mortem to a sporting event, their contribution to violence is more definable.

Taylor,⁵ an English sociologist, has contributed an explanation of the current wave of violence by soccer spectators by suggesting that it is a lower class reaction to the middle class takeover of the sport. Soccer, traditionally a working-class sport, has become controlled by a group of managers and entrepreneurs who are middle class. Kent¹ points out that the adolescents on the soccer terraces have no respect for the club and directors but are usually intensely

loyal to the players. Even some professional players who are seen to obtain excessive salaries have become more closely associated with the middle class managers and owners than with the working class fans who watch them. Taylor's is a refreshing thesis that needs further elaboration.

Another potential cause of increasing violent behavior is the parental model, in the role of fan, as mothers and fathers observe Little League and other minor sport activities, particularly in North America. Excessive verbal abuse directed toward referees and players by parents at junior games no doubt provides a model for young people's behavior when they attend other sporting events. Such behaviors are likely to be made worse by the presence of alcohol sold in arenas and stadiums throughout the world. It seems likely also that some of the responsibility for deviant behaviors of spectators at sporting events must be levelled at the physical education profession who have, as one of their aims, the development of good sportmanship on or off the field of play. It is probably that too little attention is given to the preparation for spectator behavior as a reasonable and now much needed objective of physical education programs in schools and as part of professional preparatory programs for teachers and coaches.

Finally, as Lionel Tiger reminds us in "Men in Groups"⁶ people are likely to behave differently in groups than singly. He discusses male 'bonding' as an expectation when males collect together in relatively large numbers. This social anthropologist suggests that the characteristic human propensity for male bonding derives from the former need for men to band together in order to hunt more effectively.

In summary, there would appear to be neither a simple nor a single explanation for crowd misbehavior leading to various forms of violent conduct. However, it has reached critical proportions, particularly in Britain, where fans "enter triumphantly into towns with barricaded windows and an atmosphere of impending holocaust".²

CONSEQUENCES OF VIOLENCE

Some outcomes of violence by spectators and players can be identified. Both players and fans in growing numbers can expect to experience physical injury, while behaviors of both are likely to continue to lead to serious social disturbances in communities and, in some circumstances, entire countries. Moreover, the image of the sport, which is the focus of attention at the time of violence, will suffer and it is quite possible that opponents of sport in general, particularly team sport, will cite examples of violent outbursts in criticising the relatively high level of importance given to the place of team sport in society. Consequently, fewer will play and fewer will watch — especially as directly viewing spectators at sporting contests. Furthermore, it is likely that fewer potential officials will come forward to offer their services to sport. For example, in Nova Scotia currently, there is a great shortage of soccer referees — one of the reasons being that such officials can expect to receive, at the least, verbal abuse during the course of any one season and in some instances experience physical threats of violence. □

Acknowledgement

Photo courtesy of Dalhousie University, Information and Public Relations office.

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The Marathon

Barry R. Wheeler, M.B.,

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In 1975 Doctor John Williston decided to organize a marathon in New Glasgow to be named after the celebrated Johnny Miles. There were not many competitors in the first marathon but the phenomenon of the race was the white-bearded 60-year old Joe Murray from Parrsboro, who had started the day by running a five mile race in Trenton as a warm up and then finished high in the list of finishers. The next year, many more people came to the race and here, the outstanding feature for me was the finish of Beth Williston, John's daughter, who though only in her early teens not only finished but finished in a respectable time.

For some years I have been involved in cross country skiing and orienteering and, although my results were not impressive, at least I was getting out regularly and was running several times a week, but my mileage was probably never more than about ten miles in any one week. It seemed to me, however, that if an old man and a young girl could do it then I should be able to do it.

I have since come to realize how fallacious is this reasoning. I am incapable of running nearly as fast as any of the good female runners who add a great deal to road racing and as far as I am concerned stimulate me to greater efforts. After all, when you see them in those cute little shorts they wear, who wouldn't try to keep them in sight. As far as the older athletes are concerned, when I look in the record books I find that I shall start to break some world records when I am in my 70's if I keep up the pace I am going now.

I started to train rather more steadily but didn't really get going on the longer mileage until Christmas and then, through January and February, covered about 400 kilometers on cross country skis with some running on the days when skiing was impossible, and an occasional game of badminton thrown in. At about this time our Recreation Director sent me a training schedule which suggested that I should be averaging nine miles of running a day with some L. S. D. at the weekends. L. S. D. stands for long slow distance and is the basis of training for all distance running. I never managed anywhere near as much as the schedule suggested and, looking back, I find that for my last eight weeks I averaged somewhere between thirty and forty miles a week, once totaling over fifty but achieving no runs longer than thirteen miles and those with considerable efforts.

Three weeks before the race, I was quite worried about my ability to run the distance so decided to set myself a test and ran from my house in Truro to Shortt's Lake and back. I arranged for some liquid refreshment to be left at Shortt's Lake and also got a few mouthfuls of Coke on the way out. To my surprise, I arrived to the lake feeling quite good and was further assisted by a couple of dogs who bit me firmly in the back of the leg and raised my Adrenalin somewhat higher for the next mile or two. I arrived back in Truro reasonably comfortable, but fairly tired. I had taken about four hours and

now felt confident that at least I would be able to complete the course.

During this training period, I had pretty well all the usual runner's problems associated with overuse. I had had Achilles tendonitis intermittently for years and also developed bilateral patella tendonitis and a pain situated over the greater trochanter of both hips following longer runs. The worst problem was the Achilles tendonitis and I decided to buy some shoes with a greater heel lift. I selected the Adidas Country which has an 18 mm. heel lift and a lot of padding as well as a good arch support. These are extremely comfortable and what had been a fairly serious problem became only a minor inconvenience. However, my knees continued to plague me but I felt this would probably not be enough to stop me running. These were the bad effects. The good effects were a weight loss from about 180 to 163 on the day of the race, and a considerable feeling of well being. My resting pulse had fallen to 44. About a year before, my maximum oxygen uptake was a rather insignificant 34 ml. of oxygen per kilogram, which is considered rather low. I hadn't had this checked since training, and supposedly only elevates it by about 20%. I don't suppose it is particularly high now.

On the week before the race I had decided that I would try what is known by the athletes as carbohydrate packing. The theory goes like this: If you take sufficient exercise you will lower the muscle glycogen substantially and a diet of mostly protein and fat for the next couple of days will lower it still more. Following this, a change to a high carbohydrate diet for three or four days will raise muscle glycogen to values which are almost 50% above normal. It has been shown experimentally that a runner with a high muscle glycogen value in his leg muscles is able to continue for longer at a greater speed. This method has its disadvantages as there is a tendency for the blood sugar to fall during the fat — protein days, producing a certain amount of dizziness in some people, and almost pure carbohydrate for three or four days becomes extremely unpalatable. There is some loss of appetite and abdominal discomfort. However, I tried the diet in the interests of science and noted the sensations that went along with it.

When I got to New Glasgow and met some of the other competitors, I was pleased to find that a number of them were as new to marathoning as I was, although most of them had been running for some time and in general they looked rather frighteningly young, lean, and fit. We lined up for our medical exams and I was interested to see three doctors hard at work and, as far as I could tell, enjoying it. They didn't waste much time and got through sixty of us in about an hour.

The medical profession seemed to go over quite well with the runners, probably because of their obvious interest in what was going on. The value of such examinations must be pretty

doubtful, although I suppose they could rule out someone with flu or with the grosser signs of congestive heart failure.

At the start of the race in Trenton, I went shyly to the back row, which was a good thing as most of the runners started off at a pretty brisk pace. I joined a group near the back, determined to run slowly. My only aim was to finish and I had mentally set myself a time of four hours. As we ran into New Glasgow I looked back and saw there were only two runners behind and a group of about eight just in front. At this moment, a young man with a yellow shirt decided that the pace was too slow and took off into the distance. A minute or two later I passed the group in front of me by running on the sidewalk on the inside curb. Rather to my surprise, I found that I had lost contact with them. A few miles ahead I caught up with three runners including the only girl competitor and passed them just before the five mile mark where I was given my time which was 41 minutes and some seconds. I tried to calculate in my head what my finishing time would be if I kept this pace up and came up with several different answers. However, it did seem that I was likely to finish inside four hours if I didn't slow down too much.

At seven miles there was the first drink station and I stopped and drank a styrofoam mug of water. Later on, I tried drinking on the run but this was a disaster as it cause a fit of choking and so I abandoned this method. It seems a great pity that drinks are not allowed before seven miles, as by this time a considerable amount of fluid has been lost and although if the day is fairly cool this is not critical, in hot weather it can cause dangerous dehydration and eventually lead to heat stroke. Some runners drink fluids containing sodium, potassium and glucose, and there is quite a bit of evidence that this is superior to plain water. This involves giving the organizers your special brew in individual doses to be handed out to you as you come to the drinking stations. In between the drinking stations were sponging stations, where you receive a sponge loaded with water which you can squeeze over your head or drink if you feel inclined. I was very grateful for them.

After a few more miles, I caught up with yellow-shirt and another runner. Yellow-shirt took off again but I passed the other guy going downhill and at the next drink station I passed another man who had stopped for a drink. At about the fifteen mile mark I caught up with Joe Murray who was beginning to have some trouble with his legs. Joe had not managed to get in as much winter training as usual and actually had to walk for a little while after I passed him. He told me later that a police car tried to give him a ride several times, but being who he is he eventually got running again

and finished, as usual.

At eighteen miles I came across a number of runners, including yellow shirt, only now they were walking. These were the people who had started too fast and had reached that mysterious wall, which exists at this point in the marathon, where running suddenly becomes impossible if you have misjudged it. After another mile or two I came across two more runners; I chatted with one for a moment and told him my legs were beginning to hurt and he assured me that I still looked strong. This made me feel much better and I ignored my legs, which were now becoming quite uncomfortable, for another mile or two. However, the last few miles of the marathon are a bore. My calves were quite painful and I felt I had been running for quite long enough. If it hadn't been for the fact that I had told most of Truro I was going to finish, I might well have stopped at that time. I can remember asking a number of spectators how far it was to go in the hope that they would say I was nearly there. I got answers ranging from ten miles to two miles and it soon became quite obvious that most people had no idea.

All the way, the spectators had been encouraging, clapping, cheering and calling out encouragement, except for one guy who shouted out "Turkey" and another who said, "You ain't got no hair." The crowds in New Glasgow seemed quite excited and as I passed a parking lot about fifty cars horns started sounding, presumably for me, and as I crossed the river and turned right to the finish I found myself running down a narrow lane between crowds of people who were shouting, cheering and clapping and even taking my picture. I found this quite flattering, even though I realized that everybody else was getting his picture taken too. As I crossed the line someone grabbed hold of me in case I should fall and escorted me to the Bank across the road, where there were large supplies of Coke and other runners were congratulated. After a couple of Cokes and twenty minutes rest I went up to watch the others finish. Joe Murray got the biggest cheer as he came in looking rather like the pied piper with a crowd of kids running with him. By this time I had got over the worst of my discomfort. The pain had shifted from the calves to the thighs, but I no longer felt tired. In fact, I was incredibly euphoric and this sensation lasted several days. The next day movement was painful and I had to go down stairs backwards. By the following day I felt better and was planning another marathon.

PLACE: 28th TIME: 3.37.42
In 1978, I tried again and managed 3.34.11 □



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BEYOND PARTICIPACTION

Continued from page 64.

Council for the Disabled in Nova Scotia believes that all disabled persons have a right to participate in socially integrated leisure activities. This council currently helps to coordinate the efforts of the Canadian Association for the Mentally Retarded, Canadian Rehabilitation Council for the Disabled, Canadian National Institute for the Blind, and the Canadian Mental Health Association with public leisure service agencies to promote and renew the health of the disabled, and preserve the health of non-disabled persons throughout the Province.

The degree to which traditional boundaries between leisure and health service practitioners are eliminated; the ability and desire of disabled persons to participate in community leisure opportunities; and the willingness of the non-disabled population to accept their involvement will be the measure of the success of these endeavors. □

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VIOLENCE IN SPORTS

Continued from page 70.

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Psychiatry in Neurological Practice

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In a prospective study of the 235 patients referred for neurological consultation, a clinical appraisal was made of the presence of a significant psychiatric element, either as the presenting problem, or aggravating the presenting problem, or as an unrelated feature.

In 8.9% of patients referred for neurological consultation, the primary problem was anxiety; in 23.9% anxiety was an aggravating factor to the primary neurological problem; and in 9.4% anxiety, either acute or chronic, was present as an unrelated problem. In 5.5% of cases depression was the primary problem; in 6.4% it was an aggravating factor; and in 3% unrelated to the presenting neurological disorder.

Other problems identified were psychoses (0.9%), sociopathic personality disorder (0.4%), dementia (4.2%) and mental retardation (1.3%).

The psychological and psychiatric manifestations of illness often pose difficult diagnostic and management problems in most fields of medicine. This is particularly so in neurology because of the large overlap between psychiatry and neurology.

In the past, training for both fields was that of neuro-psychiatry in which the specialist obtained a firm background in both specialties but by the end of World War II, the separation of neurology and psychiatry seemed virtually complete. During the past 25 years the trainee in neurology has spent almost no time in psychiatry. Although a psychiatry resident often spends time on a neurology service, it is now rare for a neurology resident to spend time on a psychiatry service.

Since many patients referred for private neurological consultation, or to outpatient and inpatient neurology services, have significant underlying or concomitant psychiatric disorders, the lack of training for neurology residents in psychiatric diagnosis and management is a major concern. Residents sometimes declare that the problems of patients are not neurological but functional or psychogenic or both, and then feel that the job is done. Or the patient may be treated disdainfully, as if his psychogenic problems are unworthy of attention. Of equal concern is the occasional tendency to refer offhandedly all such patients for psychiatric consultation without any thought of the part a neurologist or neurology resident should take in the management of problems which might require only some understanding, reassurance or explanation and not psychiatric consultation.

Because of these concerns it was decided to assess the types of problems referred for neurological consultation to see the extent of psychiatric illness in neurological practice.

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METHODS

After a preliminary study, the following simplified classification was used to approach this assessment in each neurological consultation:

a) **Anxiety.** The first category included neurotic disorders, and under this, acute and chronic anxiety, neurotic traits, phobic reactions (but not depressive neurosis). For simplification, this group was referred to as Anxiety.

b) **Depression,** regardless of type.

c) The third category included other psychiatric problems, functional psychosis, borderline states and alterations in mental status. This category included psychosis, sociopathic personality disorders, organic brain syndromes and mental retardation.

To ascertain that this practice had a typical referral pattern and was not weighted in any fashion because of the area of practice, the particular research or practice interest of myself or my colleagues or our relationship to an academic centre, a retrospective analysis of 635 consecutive neurological referrals to this practice was carried out (Murray, 1977). When compared with the study of Rose (1971) in the United States of the patients seen by 80 practicing neurologists, the distribution of neurological problems was strikingly similar.

A prospective study of 235 patients referred for neurological consultation was then carried out with an evaluation form completed on each patient as soon as the consultation was completed. This included, along with the documentation of clinical details, specific sections relating to psychogenic factors. If present, such factors were designated as a primary problem, secondary to the neurological or medical problem, an aggravating factor, or unrelated to the primary problem. The specific psychiatric problem was then classified by the above simplified criteria.

RESULTS

Anxiety and chronic tension states were the most frequent psychiatric problems (Table I). Of patients referred for neurological consultation 8.9% were suffering from acute or chronic anxiety. The most common presentations were acute anxiety attacks, acute hyperventilation syndrome, acute phobic reactions and symptoms of chronic anxiety states. Usually the physical symptoms of acute or chronic anxiety or resulting conversion symptomatology were interpreted by the referring physician as a paroxysmal or chronic neurological disorder such as epilepsy, acute vertigo, peripheral neuropathy, etc.

Anxiety was even more common as a significant aggravating factor in other diagnoses. Many patients referred with headaches, multiple sclerosis and pain syndromes had their problem aggravated by a significant, acute or chronic anxiety state. Of these, 23.9% had a neurological or medical problem in which the anxiety state was an aggravating factor. In 9.4% of patients a chronic anxiety or tension state existed but was

TABLE I

**PSYCHIATRIC PROBLEMS SEEN IN
235 NEUROLOGICAL CONSULTATIONS**

	Number	Percentage
Anxiety:		
Primary problem	21	8.9
Aggravating factor	55	23.9
Unrelated problem	22	9.4
Anxiety plus Depression	27	11.5
Depression:		
Primary problem	13	5.5
Aggravating factor	15	6.4
Unrelated problem	7	3.0
Psychosis	2	0.9
Sociopathic personality disorder	1	0.4
Dementia	10	4.2
Mental retardation	3	1.3
	176	63.9

unrelated to the presenting problems. For instance, a patient who had a marked chronic anxiety state was seen with a diabetic third nerve paralysis. This problem would be designated as chronic anxiety unrelated to the presenting problem.

Depression was the primary problem in 5.5% of patients, an aggravating factor in a further 6.4% and present as an unrelated problem in 3%.

Of patients seen in neurological consultation 11.5% had a mixed anxiety and depressive state and these are included in the figures of both categories.

In the third category were a smaller number of problems. About 1% of the patients seen had a psychosis. Only one patient had a sociopathic personality disorder. Dementia was present in 4.2% of the patients and mental retardation in 1.3%.

DISCUSSION

Thus, 63.9% of patients referred for neurological consultation had significant psychiatric problems. In 14.4% the primary problem bringing the patient to a neurologist was chronic or acute anxiety, or depression, and in a further 30.3% these psychiatric problems were aggravating the presenting neurological problems.

Neurologists are usually adept at recognizing the functional or psychiatric aspects of their patients' problems but often have inadequate training in the management of such disorders or in the understanding of newer concepts of therapeutics in psychiatry, particularly as they relate to the use of psychotropic drugs. If over half of our patients have significant psychiatric problems, it is mandatory that our residents in training have a better basis in this area. The training need not be "traditional" psychiatry, or even on psychiatric services, but a program should be incorporated into the training of residents that utilizes appropriate neurologists and psychiatrists to provide residents with a solid foundation in the assessment and management of psychiatric disease. The continuing medical education of neurologists should also include updating in concepts of psychiatry and the appropriate use of psychotropic drugs and other therapeutic advances.

In his study of 80 neurologists, Rose noted that by their own admission, their greatest deficiencies were in the areas of rehabilitation, anxiety, and endocrine metabolic disorders. In the 1440 patients seen by these neurologists, anxiety was found to be the fourth most common problem after headaches, epilepsy and strokes.

The separation of psychiatry and neurology seemed complete a decade ago. As we learn more about both the emotional aspects of our neurological patients, and the psyche in relation to brain structure, it is important to consider again some blending of these specialties in appropriate areas in the training and practice of neurology. □

Acknowledgement

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Congenital Infections and the TORCH Syndrome

Part II

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GROUP B β HAEMOLYTIC STREPTOCOCCUS (GBS)

Streptococci organisms were described by Lancefield in 1934. In the past two decades and especially since 1970, the incidence of Streptococcus B has risen sharply; in many centres it has replaced Enterobacteriaceae as the organism most frequently associated with neonatal septicemia and meningitis.⁹ Reasons for this shift remain obscure.

The organism

Group B β haemolytic streptococcus is a gram-positive coccus (*Streptococcus agalactiae*). The human strains are distinct from those of bovine origin. Typing within this group is based on an envelope carbohydrate and two protein moieties. Thus five serotypes are recognized: Ia, Ib, Ic, II, III.

Transmission

GBS is found in the genital and gastrointestinal tracts of healthy women. It may be transmitted by sexual contact. Early colonization of the foetus occurs in the intrapartum period; this can occur as an ascending infection, especially with prolonged rupture of the membranes or during passage through the birth canal. Late colonization is probably largely nosocomial.

Epidemiology

The increased incidence of GBS as a cause of neonatal sepsis and meningitis is well documented. In a large hospital in Texas, the incidence of neonatal meningitis due to GBS rose from 33-70% of all cases of neonatal meningitis.⁹

Marked variations in colonization rates have been reported by various investigators from different localities. The rates may be influenced by geographic area, socioeconomic status of the study populations, number and site of collection of specimens and culture techniques. Colonization rates for parturient women ranged from 4.6-29%,^{9 10} and for nursery personnel from 14.6-43%. Infant colonization rates are reported from 1.2-37.2%, depending on local circumstances. In Nova Scotia the rate is 2.17%.¹¹ The rate may rise from time of birth to time of discharge from hospital by up to 43%. Only 0.13-0.48% of the colonized neonates develop sepsis.⁹ Serotyping of parturient women and colonized newborns shows that B Ia, B II, and B III serotypes are most prevalent but there is no clear cut pattern. Among nursery personnel carriers, B II and especially B III are most frequent. However,

neonatal meningitis is associated almost exclusively with B III serotype, whereas B Ia serotype is associated more often with the early onset disease.^{10 12}

Pathogenesis

Colonization of GBS may be localized just inside the vaginal introitus, and it is possible that ecological conditions in the vagina during pregnancy are conducive to the growth of GBS.

Faecal reservoir seems important as a seeding source of the genitalia. Venereal transmission is likely. Early acquisition of GBS can occur in the intrapartum period, but most infants appear to be colonized during passage through the birth canal, with subsequent septicemia and pneumonia.

The late onset, meningitic type of infection usually occurs after the first week of life and may be acquired nosocomially; it may also be a late manifestation of intrapartum infection. Maternal antibodies probably play a role in this respect.

Pathology

Histology of the lung, which is often involved, shows interstitial haemorrhages, parenchymal exudate with numerous neutrophils, gram-positive cocci and occasionally hyaline membranes.

Clinical Manifestations

There are two clinically and epidemiologically distinct presentations. Early or acute onset occurs in neonates who are less than 10 days old, usually within 24-48 hours after delivery, and is a severe and rapidly progressive illness. Respiratory manifestations predominate followed by respiratory failure, shock and death in 60-70% of cases. Low birth weight is common among these infants and their mothers often have a history of obstetrical complications. Serology of GBS isolated is varied but Group Ia predominates. The "late onset" GBS infection occurs in infants aged 10 days or older. There are infrequent associations with maternal obstetrical complications. The disease is not as severe and has a mortality rate of 14-18%; it is almost always meningeal in manifestations, and the GBS almost always belongs serologically to group III.

Diagnosis

Bacterial isolation and identification are required.

Therapy

Although group B streptococci are susceptible to penicillin, they are less so than group A, and higher doses may be necessary. Some authorities recommend a combination therapy of penicillin and kanamycin or gentamicin.¹³

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Prevention

Prophylactic treatment with penicillin given to carriers is controversial. Proponents of prophylaxis recommend vaginal cultures of expectant mothers late in pregnancy, and treatment of all positives with benzathine penicillin G or, culture at several sites of all newborns and treatment of all positive neonates with penicillin.

Those who oppose prophylaxis point out that treatment of all carrier pregnant females and their sexual partners, may expose a sizable number of the population to penicillin hypersensitization, without necessarily eradicating the carrier state. K. Scott et al. of the Grace Maternity Hospital, Halifax have shown the use of penicillin within two hours of birth in the underweight infant prevents the disease. (Personal communication).

LISTERIOSIS

Listeria monocytogenes is a gram-negative non sporulating rod with characteristic tumbling motility. Culture is easy from usually sterile body fluids (blood, CSF) but may need prolonged incubation at 4°C for isolation from tissues and very contaminated specimens (vaginal, faecal). Four serotypes are recognized. If maternal infection occurs early in pregnancy the outcome is abortion. Maternal infection in the second and third trimesters results in stillbirth or congenital infection. Usually transmission occurs in the intrapartum period, with ascending infection that contaminates the amniotic fluid that the infant may swallow. Colonization without clinical disease is relatively common. In Halifax a survey of 463 newborn infants at the Grace Maternity Hospital showed one (0.22%) positive for listeria.

Clinical Manifestations

Two modes, early and late onset, exist. The early onset infection occurs in infants less than one week old, often within a few hours after birth; they are frequently premature and of low birth weight. Frequently the mothers had obstetrical complications and the amniotic fluid is abnormal. Clinical manifestations are of a septicemic and respiratory nature and include widespread small granulomas of the mucous membranes, skin and several organs including the liver.^{14 15 16} Circulatory and respiratory failure are frequent. Up to 70% of organisms are isolated from blood, up to 42% from CSF and only 25% from other sites. The most frequent serotypes are Ia, Ib and IVb; those isolated from the infants are always the same as those from the mother. The disease is usually severe and mortality is high (up to 33%).

The late onset infection appears in infants one week of age or older. Meningitis is the most frequent clinical manifestation. The infants are usually full term, and of normal birth weight. There is no history of maternal obstetrical complications. CSF culture is positive in up to 90% of cases and serotype IVb predominates. The disease is less severe and the mortality rate is about 10%.

Diagnosis

Culture and positive isolation are the most reliable; serology is not satisfactory.

Treatment

Antimicrobials in large doses are indicated. Ampicillin is the drug of choice, though the organism is usually sensitive *in*

vitro to penicillin, chloramphenicol, sulphonamides, erythromycin and cephalosporins.

Prevention

Women at risk should be instructed to use sanitary measures when in close contact with animals. The number of rodents in the living environment should be reduced, and only pasteurized milk should be consumed. Routine bacteriology of vaginal discharge and cervical swabs for listeria, should be included in prenatal visits. Especially during the second half of a pregnancy, physicians should investigate any sign of infection including "flu" with bacterial cultures (blood, cervix) and treat the patient rigorously if listeria is found. Pregnant patients who delivered a baby with listeria in a previous pregnancy should be methodically and repeatedly cultured for listeria. Recent studies suggest increased incidence of this disease.^{13 14 15}

SYPHILIS

Man is the natural host and vector of *Treponema pallidum*. Transmission in adults is by sexual contact; transmission to foetus is usually transplacental and probably occurs after the sixth month of pregnancy. Congenitally infected newborns with cutaneous or mucocutaneous lesions are extremely infectious. Infection in the foetus may result in stillbirth.

Clinical manifestations in congenitally infected newborns are divided into early (e.g. signs and symptoms appearing within 2 years of life) and late congenital syphilis (manifestations apparent after the age of 2 years). Early manifestations are prematurity, hydrops fetalis, persistent rhinitis, pneumonia, hepatosplenomegaly with jaundice, lymphadenopathy, anaemia, bleeding tendency, maculopapular rash or bullae, bone lesions, CNS manifestations, and ocular lesions. In late congenital syphilis the Hutchinsonian triad (malformation of teeth, interstitial keratitis, nerve deafness) may be present as well as saddle nose, rhagades, and CNS, bone and joint involvement.

Positive diagnosis by dark field examination of bullae aspirate is rarely made. The newborn may be VDRL- and FTA-ABS-positive because of maternally transmitted antibodies, in which case VDRL titres will progressively decrease and disappear by 3-4 months of age. Persisting or rising titres make the diagnosis of syphilis probable. The decision to treat newborns suspected of congenital infection may be difficult. Symptomatic infants with positive VDRL and those who are asymptomatic but whose VDRL titre is 4 times higher than maternal VDRL should be treated. Positive infants with abnormal CSF, bone lesions on X-rays, total IgM-1 mg%, or abnormal hematological findings should also be treated. The remainder, provided the mother is reliable, should be followed up with repeat VDRL tests. The treatment of choice is penicillin. To prevent congenital syphilis, all expectant mothers should have a serological test for syphilis during pregnancy, and be treated promptly if indicated. Routinely each cord blood should be tested to determine the infant's status.

GONORRHEA

The most frequent manifestation of perinatal infection is ophthalmia neonatorum. With the Credé principle of prophylactic instillation of 1% AgNO₃ without rinse, this complication should not occur.

Diagnosis should be considered in every case of severe conjunctivitis appearing after 24 hours of age. Gram stain should be confirmed by culture. Treatment is penicillin.

TUBERCULOSIS

Occurance in the newborn as a complication of pregnancy is extremely rare, except in very underprivileged groups. The foetus may acquire the infection following placentitis and foetal haematogenous spread, or by aspiration of infected amniotic fluid. Intrapartum infection by tuberculosis cervicitis or vaginitis is extremely rare. Postnatal infection is usually airborne.

In utero infection is almost always fatal to the foetus. Clinical signs in neonatal infection include low birth weight, fever, anorexia, cyanotic spells, hepatosplenomegaly, lymphadenopathy, pneumonia and subsequently meningitis.

Diagnosis is by examination and culture of gastric aspirate. The intradermal PPD skin test is often negative in the newborn.

Pregnant women with positive skin test but negative chest X-ray, may be treated with INH at the third trimester of pregnancy. If chest X-ray is positive as well, they should be treated with INH, PAS and pyridoxine. However, if sputum culture is negative, treatment may be deferred to the third trimester of pregnancy. If maternal tuberculosis is active, triple therapy with INH, PAS and streptomycin should be initiated.

If the baby is congenitally infected he should be treated aggressively with streptomycin, ethambutol, rifampin. An uninfected baby, born to a tuberculous mother, should be given BCG vaccination on the first day of life; if feasible, INH prophylaxis is an alternative to BCG vaccination.

MYCOPLASMA

There are several species, and pathogens may be divided into respiratory mycoplasmas, *M. pneumoniae* and genital mycoplasma including *Ureaplasma urealyticum*, *M. hominis* and *M. fermentans*.

M. pneumoniae has rarely been associated with perinatal infections. There is one report of a newborn with hydrocephalus and congenital defects of the skin and eyes born to a mother who experienced bilateral bronchopneumonia in her first trimester.¹⁷ Serologic studies showed that the bronchopneumonia might have been due to *M. pneumoniae*.

Genital Mycoplasmas

More than 80% of pregnant women may have positive cervical or urine cultures. Incidence may, however, be considerably lower in women with higher socioeconomic background.^{18,19} Transmission in adults very often occurs with sexual contact. Transmission to the newborn occurs during the intrapartum period, as the infant passes through the birth canal, but ascending infection is possible with prolonged membrane rupture, and up to 1/3 of newborns are thus colonized. Genital mycoplasmas have been associated with infertility, spontaneous abortions, stillbirths and low birth weights. Diagnosis is made by culture and serology which includes CF and agglutinins. Mycoplasma organisms are sensitive to tetracyclines. *U. urealyticum* is sensitive to erythromycin and resistant to lincomycin and *M. hominis* is resistant to erythromycin and sensitive to lincomycin.

CHLAMYDIA

There are two species of the genus Chlamydia, (1) *C. trachomatis* and (2) *C. psittaci*. *C. trachomatis* is responsible for trachoma and inclusion conjunctivitis (TRIC) and has been associated with genital infections in adults and with conjunctivitis and pneumonia in the newborn infant.

Chlamydiae, formerly thought to be viruses, have been shown to have a bacteria-like cell wall, multiply by binary fission, contain both DNA and RNA and are susceptible to many antibiotics. They are intracellular organisms that are inclusion forming, and cannot sustain growth outside an animal cell.

Epidemiology of Trachoma Eye Infection

In endemic areas (the Middle East, North Africa, Northern India) trachoma is common, and is transmitted eye to eye. In non endemic areas (including Canada) *C. trachomatis* eye infection occurs as a sporadic eye disease dependent on genital tract to eye transmission.

Neonatal Inclusion Conjunctivitis

This is a common form of ophthalmia neonatorum. The newborn is infected during passage through the infected birth canal. Onset of conjunctivitis occurs 5-14 days after delivery, and is usually bilateral, involving predominantly the tarsal conjunctivae. It is a papillary conjunctivitis with abundant mucopurulent exudate. The acute stage may subside spontaneously in a few weeks, followed by the chronic stage that may persist for several months and may cause mild scarring. The treatment of choice is topical tetracycline ointment or sulfacetamide drops.

Pneumonia Syndrome

Pneumonia Syndrome due to *C. trachomatis* has been described recently with positive cultures in 18 of 20 infants with this syndrome.²⁰ Onset of gradually increasing symptoms often begins in the second or third weeks of life, and diagnosis is usually made by 6 weeks of age. Systemic reactions such as fever and malaise are absent. Mucoid nasal discharge, tachypnea and distinctive cough that is pertussis-like in form but without a whoop, are characteristic. Cyanosis and emesis may be associated with coughing. Lung auscultation reveals inspiratory crepitant rales, with minimal expiratory wheezing. The chest X-ray pattern is a combination of hyperexpansion with diffuse interstitial and alveolar infiltrates. Laboratory findings include depressed P_{aO_2} , normal P_{aCO_2} , hyper immunoglobulinemia G and M and often mild absolute blood eosinophilia; immunofluorescent antibody titres are elevated. The course is protracted and the cough requires weeks to clear.

Diagnosis

Culture is possible by inoculation into embryonated egg-yolk sac, or in tissue culture (McCoy cells). A presumptive diagnosis can be made by demonstrating cytoplasmic inclusions in conjunctival cells. Complement fixation test (group antigens) and the recently described micro-immunofluorescence test that is considerably more sensitive than the complement fixation test.

MYXOVIRUSES

Influenza A

There is no evidence for or against the suggestion that the influenza virus can cross the placenta. The possible effect of congenital influenza infection comes from circumstantial epidemiological data. Retrospective study of children born to women who were pregnant during an influenza epidemic in Britain and who had a positive history of influenza, showed a significantly higher rate of leukemia and other lymphoreticular cancers than children born at the same time to women with no clinical history of influenza.²¹

Measles (Rubeola)

Since this paramyxovirus causes a highly communicable childhood disease, only a few women are still susceptible at child bearing age. The incidence of gestational measles is 0.4-0.6 cases per 10,000 pregnancies, but with widespread use of vaccine this incidence may be even lower. Congenital infection occurs by intrauterine haematogenous transmission and may result in abortion or prematurity and possibly in chromosomal aberrations. Congenital defects have not been demonstrated.

Neonatal death in congenital measles may be due to pneumonia. Laboratory diagnosis includes virus isolation, cytology examination of urine, pharyngeal or nasal epithelium. Serological tests include HI and CF antibodies.

Mumps

Mumps virus is a paramyxovirus. Gestational mumps occurs in only 0.8-10 cases per 10,000 pregnancies. The virus probably crosses the placenta and may cause abortions during the first trimester of pregnancy. Though it can cause congenital cardiac malformation in experimental animals, its role in human pathology is not resolved. Early unconfirmed studies based on a nonspecific skin test, tried to link the virus to endocardial fibroelastosis. In experimental animals mumps virus may cause stenosis of the aqueduct of Sylvius during embryogenesis.

Chickenpox

Varicella-zoster, is a DNA containing herpes virus. Primary infection results in chickenpox and the virus persists in a latent phase in the nerve ganglia of the dorsal roots. When reactivated, herpes-zoster, a highly communicable childhood disease, results. Consequently, few females of childbearing age are susceptible, and incidence during pregnancy is 5 per 10,000 pregnancies. Transmission to the foetus is transplacental and may occur at any time during pregnancy. The incidence of nosocomial transmission in the nursery is very low. Apparently infants are partially protected by maternal antibodies. Maternal chickenpox and varicella pneumonia may be more severe due to pregnancy, and foetal death may result because of maternal complications. Neonatal chickenpox by transplacental transmission following maternal infection near delivery occurs in 25% of cases.¹ The earlier the onset the milder the disease is. Skin manifestations are the rule.

The mortality rate increases in the case of pneumonia. Retrospective studies strongly suggest teratogenic effects. A unique combination of malformations has been described in infants whose mothers had chickenpox during the first trimester of pregnancy. These include limb deformity,

cicatrical skin lesions, cerebral cortical atrophy, ocular abnormalities and low birth weight. Diagnosis may be suspected from the clinical context, virus culture, serology CF rising titres (IgG, IgM), and IFA. Zoster immune globulins may be preventive if given within 72 hours of exposure but these have not been tried extensively in gestational or neonatal varicella. Immune serum globulins may be tried; they often cause attenuation but do not prevent the disease. Despite evidence of the low communicability of chickenpox in the neonatal period strict isolation is recommended.

Enteroviruses

These are small RNA viruses, including poliovirus, coxsackieviruses A and B and echoviruses.

Polioviruses

Transplacental passage occurs, especially near term. Abortion is rare. Congenital malformations have not been proven, but low birth weight and stillbirths do occur. Neonatal infection is unapparent or abortive in 98% of cases, and overt infection manifested as paralytic polio is the same as in an older child.

Coxsackieviruses

No abortions are associated with this virus. There is a statistical association between maternal infection with coxsackie B₄ in the first trimester of pregnancy and congenital heart disease. Coxsackie B viruses may cause both neonatal myocarditis and encephalitis. Coxsackie viruses group A have been associated with neonatal hepatitis, febrile exanthems, diarrhea and encephalitis.

Echoviruses

These have been associated with neonatal infection including fever, exanthems, diarrhea and meningitis. Careful isolation techniques are recommended.

VARIOLA — VACCINIA

Smallpox

Foetal mortality is increased after maternal smallpox, but the incidence is not known. Alastrim (variola minor) can also cause foetal death; when it is closely followed by smallpox neonatal infection results.

Vaccinia virus

Foetal infection can result. About 20 cases, nearly all of which followed a long interval, have been recorded in the literature. Of these three survived but had large scars on their skin. The fatal cases were usually associated with macerated foetuses and diffuse necrotic lesions on the skin and viscera. Although the risk of foetal damage is small, vaccination is contraindicated in pregnancy unless there has been definite contact with a known case of smallpox.

HEPATITIS B

This appears to be a DNA virus; its structure is complex and is still being actively investigated. Several antigens are associated with this virus including HB_sA_e = surface antigen with several antigenic subtypes, HB_eA_e = core antigen, HB_cA_e = e antigen associated with the virus core and may represent DNA polymerase.

Transmission

With acute maternal infection, transmission to infants occurs in the third trimester or near delivery, and most infants acquire the infection at delivery. Transmission of hepatitis B in a pregnant chronic carrier is rare except in certain geographic areas (Japan, Taiwan) that have a high prevalence of chronic carriers. Transmission in those circumstances may occur transplacentally or in the intrapartum period. Incidence of transmission from mothers with acute hepatitis in the third trimester or soon after delivery may be as high as 75%. Incidence of transmission from chronic carriers in Japan and Taiwan may also be as high as 75%. It seems that when HB_sAg is present transmission approaches 100%. The presence of HB_sAg, regardless of HB_sAg status is never associated with transmission.

Most HB_sAg positive infants are not clinically ill, although in many, hepatic enzymes are abnormally elevated, with abnormal liver biopsy. Long term effects are unknown. Severe hepatitis is rare and is manifested by hepatosplenomegaly, jaundice and ascites. Neonates born to mothers who had acute hepatitis from the third trimester on might benefit from hepatitis B immune serum globulin or from standard immune serum globulin provided they are HB_sAg negative, immediately after birth. It is not known whether infants born to chronic carriers should receive immune serum globulins; however, preventive measures including isolation and appropriate handling of blood and other secretions should be taken in the nursery and breast feeding should be discouraged.

FUNGUS INFECTION

The most frequent is *Candida albicans*. In adults *C. albicans* is part of the normal flora of the mouth, faeces and vagina. Transmission usually occurs during delivery, when the infant passes through the birth canal but may occur during the third trimester as an ascending infection. Susceptibility to *C. albicans* is greater in the first 6 months of life than later. The most common clinical manifestation is oral thrush, and up to 4% of all newborns may be infected. Dissemination is rare and is multifocal. The meninges, kidneys and gastrointestinal tract are most severely affected. Diagnosis is made by culture; serology is of little value. Mucocutaneous infections may be treated with Mycostatin. Disseminated infection must be treated with amphotericin B. □

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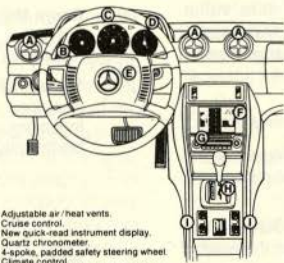
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The 280E features fully independent suspension systems. Each wheel has its own system, allowing it to react individually to the road surface. Moreover, each of these systems has its own nitrogen-filled shock absorber and coil spring to dampen road shock. And two separate and exactly designed anti-sway torsion bars keep body roll in check.

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Mercedes-Benz recirculating ball power steering, it produces a quick maneuvering response and an incredibly tight 37-foot turning circle. And its ball joints are completely maintenance free.

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A host of Mercedes-Benz engineering achievements have contributed to the unusual safety systems of the new 280E. Each wheel has its own servo-assisted disc brake. The steering column is designed to telescope three ways. Front and rear bumpers are self-regenerative. All told, over one hundred separate safety elements and systems have been combined in the new 280E Sedan.

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The Seven Year Itch

Denis R. S. Howell,* M.D., M.R.C.S., F.R.C.P.(C),
Halifax, N.S.

Dear George:

So you are having trouble with scabies in your area. This sort of thing is becoming very common in various parts of the world, and in the past few months there have been several troublesome epidemics in the Atlantic Region. It has been suggested that this is because of changing sexual mores, or even because some of the parasites are becoming resistant to scabicides. In any case, diagnosing scabies in a household often causes near-panic among people who think with horror of any skin disease, and particularly something which they know to be contagious.

Since you may want to have something to show to the Public Health Nurses and parents, I am going to answer your request by giving a fairly complete account of what we know about scabies.

In man, it is caused by *Acarus (Sarcoptes) scabiei hominus* transmitted by direct contact from one human to another, or occasionally, from contaminated clothing. (Domestic pets do catch scabies, but the acarus which affects them dies quickly on contact with the human skin).

The method of transmission is not necessarily by means of a "close encounter of the best kind", but by any direct touching of one person by another, especially in overcrowded environments, such as school, army camps, etc. The acarus does not jump, however.

Both the male and female acari come into contact with the human skin, but as in life generally, it is the female which causes the trouble! With that enterprise and capacity to irritate which is characteristic of her sex, the lady acarus burrows just under the stratum corneum, and there lays her eggs. These hatch out in a few days, and the creature moves along in her burrow, depositing new eggs as she does so. (Figure 1 and Figure 2.)

Although the gestation of the eggs of the mite is brief, it takes anything from four to six weeks before the patient becomes aware of the infestation. This is because the burning-itch is a symptom of an allergic sensitization to the acarus, which takes several weeks to develop. (The idea that the pruritus is allergic in origin is reinforced by the fact that if a person catches scabies for the second time, itching commences almost immediately).

In the usual case of scabies, most of the parasites are quickly removed from the skin by scratching, and only a few survive. Since the burrows are also very small and, do not always promote marked inflammation, they may be hard to identify. It is, therefore, helpful to remember that there are some sites of predilection, including the clefts between the fingers, the outer sides of the wrists, the buttocks, the male genitals, the lower abdomen, the ankles, and the female

breasts. The relative toughness of the stratum corneum of the palms and soles provides a barrier against formation of burrows, except in small children.

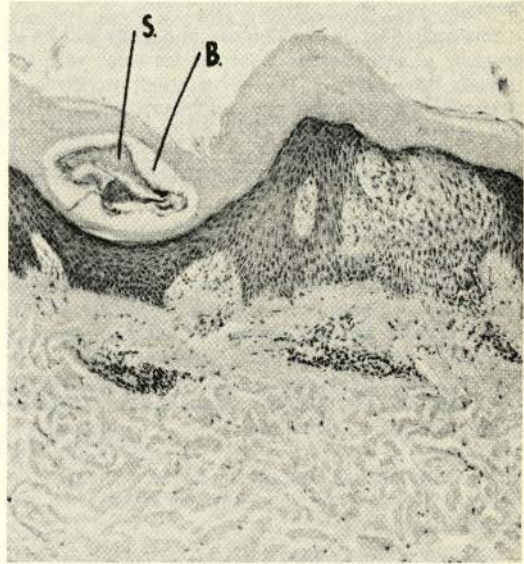


FIGURE 1

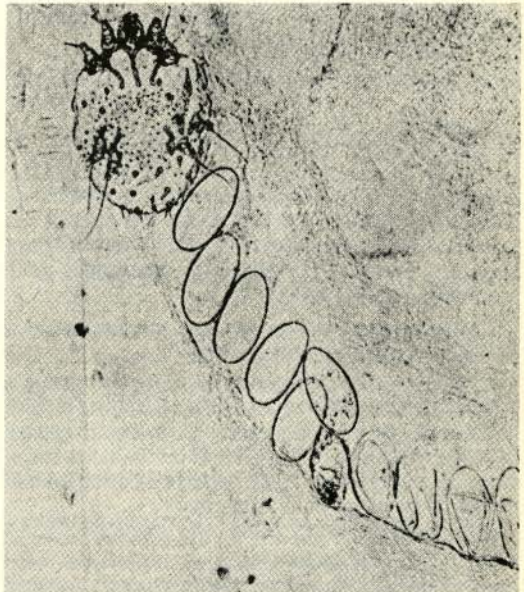


FIGURE 2

*Associate Professor, Department of Medicine, (Dermatology), Dalhousie University, Halifax, N.S.

A very important point to remember is that scabies virtually never occurs above the neckline.

The mite is only about $\frac{1}{60}$ of an inch in length, and sometimes the diagnosis of scabies becomes a probability rather than a certainty. However, it can be seen as a slightly darkened dot at the end of a translucent burrow in the superficial part of the stratum corneum, in one of the usual sites. With good eyesight, a magnifying glass, and strong light, it is often possible to extract the acarus and/or its ova from the burrow with a fine hypodermic needle, or by making scrapings with a scalpel, removing the top of the burrow and the offending creature, which can then be identified under the microscope. (There is no closed season for this type of hunting).

Norwegian Scabies occurs rarely, in patients with a low immunity against infestation, (sometimes those who are mentally handicapped or severely disabled). Hundreds of acari may be present on the skin of the unfortunate victim, and sometimes epidemics have occurred in institutions complicated by severe bacterial infection, and almost generalized crusting. Fortunately, this condition is quite rare.

TREATMENT

It is usually possible to cure scabies with a single course of treatment, if certain rules are followed. *Benzyl benzoate* is one of the better treatments: this is a white powder which is soluble in water, and must therefore be used as an aqueous suspension (about 25% in water). Doctors who like to use nice clear liquids sometimes prescribe an alcoholic solution of Benzyl Benzoate, which is regrettable. Painting the genitalia of patients with alcohol is not a good method of building up a big practice, and the use of alcoholic preparations such as Scabanca is not recommended. (In addition, Scabanca lotion contains parabens, which are potential sensitizers).

Kwellada (Gamma Benzene Hexachloride) is another effective chemical, available as a cream or lotion.

Sulphur Ointment also works, but has an unpleasant odour, and often produces an irritant dermatitis.

TECHNIQUE

Whether you are going to use Benzyl Benzoate or Kwellada, a certain protocol must be followed. I usually recommend that the patient have a bath, and then apply the lotion to all the body, back and front, from the toes to the neckline, (not only to the itching areas). The quickest and most economical way of doing this is with an inch-wide paint brush. This substance is allowed to dry, which takes about two minutes, and then applied again.

On the second night, the patient takes another bath, and the liquid or cream is applied once more.

On the third morning, the patient has a complete change of clothing, and all the clothing which has come next to the skin (in addition to sheets, and pillow slips) should be laundered. (It is not necessary for these to be boiled, or for strong disinfectants to be used. Indeed, the latter should be avoided because of the danger of irritant dermatitis).

This treatment will deal with the infestation in almost all cases, but the pruritus will continue for further seven to ten days. During that time, an antipruritic substance, such as Calamine cream or lotion, can be used.

TREATMENT FAILURES

Even if all these directions are followed, treatment is sometimes unsuccessful. This is because of:-

1) Misdiagnosis

Scabies is not the only papulo — vesicular pruritic dermatosis. Pediculosis, insect bites, nummular eczema, and dermatitis herpetiformis, are perhaps most often mistaken for it. In the elderly, the atrophic changes of ageing, associated with a lowered itch-threshold, sometimes produce pruritus which may mimic scabies or may co-exist with it. Systemic causes of generalized pruritus must also be considered.

2) Undertreatment

This may occur not only from failure to treat the whole body, but also failure to treat all close contacts of patient. Once the diagnosis has been made, all members of the household, and all those who have been in close physical contact with the patient, particularly those who slept in the same bed must be treated in the same way, whether they are itching or not. (This is because of the four weeks' incubation period of the disease). Failure to do this often results in a "ping-pong" reinfection.

3) Overtreatment

Sometimes patients or their parents, are so horrified with the idea of catching scabies that they subject their skins to vigorous scrubbing. They may also assume that if the treatment is effective after three applications, it will be twice as good if used six times, and eight times as helpful if applied twelve times. This kind of overtreatment invariably produces irritant dermatitis, causing a different kind of itching, sometimes promoting more overtreatment.

4) Complications

Secondary bacterial infection quite often occurs as a result of prolonged scratching. Some cases of scabies present themselves as impetigo or furunculosis, sometimes above the neckline, and unless the underlying scabies is dealt with, the bacterial infection quickly recurs.

The prolonged use of topical cortico-steroids may lower the resistance of the skin both to scabies and to bacterial infection.

All the best, George. I hope you can keep your patients up to scratch.

Yours sincerely,

Denis

□

Illustrations "Scabies" by Kenneth Mellanby — Oxford University Press, 1943

NO SMOKING

Once again there is a tip-in which may easily be removed for use as a poster in your waiting room or office.

Physician Rehabilitation

Douglas K. Murray, * M.D., F.A.C.S., F.I.C.S.,

Halifax, N.S.

When, if ever, does any one of us feel comfortable in the role of being a brother's keeper? It is a delicate and complicated position. Generally, there seems to be no all-encompassing answer in any given situation.

It is always easy to side-step an issue where one feels incompetent to judge, or where there is no personal involvement.

In recent years the permissive society has made its appearance, and with the changing social mores, there appears to be an increase in the use and abuse of alcohol and other mood-changing drugs.

When this happens to involve a member of the medical fraternity, it involves a loss of special manpower and prestige, and the threat of legal culpability is ever-present. It seems at this point there should be a brother's keeper.

Aware of an increase of problems in this area, The Provincial Medical Board of Nova Scotia and The Medical Society of Nova Scotia created a joint Committee for Rehabilitation of the physician so affected. Its membership includes a representative from the Nova Scotia Commission on Drug Dependency. The Committee has direct access to assistance from psychiatry as well as sophisticated aid from bodies such as drug treatment agencies. It is a non-punitive body.

This Committee meets about six times yearly to address itself to the business of new cases and complaints, as well as to review the older and ongoing problems.

This, then is the function of the Committee for the Rehabilitation of Physicians. □

The Committee for Rehabilitation of Physicians in Nova Scotia

Albert Prossin,** M.D., C.C.F.P.,

Sydney, N.S.

The Rehabilitation Committee has evolved into a structured model over a period of a little more than two years, in response to a definite need in Nova Scotia to attempt to rehabilitate physicians who are impaired, in one way or another. Much good work along these lines has been done in the past on an ad hoc basis by physicians to help confrères with difficulties.

The composition of the Committee has been based upon an Occupational Model with representation from The Provincial Medical Board and representatives from The Medical Society of Nova Scotia, along with a representative from the Nova Scotia Commission on Drug Dependency.

Two members attended a Seminar in Atlanta, Georgia on "The Impaired Physician", dealing with Confrontation Techniques, the Physician and his family, Treatment Techniques, Legislative Procedures, Challenges in Enforcing the Law, Inept or Unethical Physicians and a wide range of Program Models extant in several States.

*Member, Joint Committee for Rehabilitation of Physicians in Nova Scotia, The Medical Society of Nova Scotia and the Provincial Medical Board of Nova Scotia.

**Chairman, Joint Committee for Rehabilitation of Physicians in Nova Scotia, The Medical Society of Nova Scotia and the Provincial Medical Board of Nova Scotia.

OBJECTIVE AND GOAL

The *Objective* of the Rehabilitation Committee is to rehabilitate or attempt to rehabilitate the Impaired Physician whether he is:

- 1) **Incompetent**, because of lack of knowledge or poor organization; or
- 2) **Malicious**, whether this is due to unethical practices resulting in unproven treatments or sexual exploitation, or activities which are fraudulent in nature; or
- 3) **Psychiatrically Disturbed**, as a result of alcoholism, drug addiction or senility, resulting from ageing.

The *Goal* is to treat and rehabilitate the disabled or impaired physician who is, in effect, violating professionalism, in one or a mixture of the above-mentioned categories. Having said this and noting the importance of *justice* we must also have *compassion* for our Colleagues in those categories and attempt to help them, in an enlightened fashion filled with humanity.

ESTABLISHMENT OF STEPS IN REHABILITATION

Our task has been to establish steps: Identification of the Impaired Physician: Motivation of these Physicians to become Rehabilitated: the Rehabilitation Process itself: and

re-entry of these physicians into full or limited practice following rehabilitation.

It has been deemed important to identify the above categories early as well as the *exhausted physician*, the *suicidal physician*, the *unlucky physician* (from Malpractice suits or poor investments or on welfare). It was realized that the earlier the identification the more effective and shorter the treatment period.

It is understood that the process of *denial* makes motivation very difficult, and, therefore, the confrontation procedure must have a carefully developed and well organized plan of approach. The activities of this Committee depend upon referral from the P.M.B., the M.S.N.S., a fellow colleague, a wife or husband, a hospital administrator, or the physician who is self-referred.

EDUCATIONAL FUNCTION

The Committee also has an educational function working along with the P.M.B., the M.S.N.S., Branch Societies, and the Medical School, in order to increase the awareness of this problem among our colleagues; to indicate the various categories of impairment; to develop confrontation techniques; to discuss the wide range of legal problems; to

highlight treatment procedures and methods; to develop techniques for monitoring treatment and rehabilitation, and, to study the effects on his or her family.

RE-ENTRY

Re-entry is an important consideration because the Physician must re-adapt to the community and fellow doctors, and his colleagues must also re-adapt to his new role, and new outlook following rehabilitation. At this time, economic problems may have to be solved.

The Committee has met with the Executive Members of The Medical Society of Nova Scotia and had the privilege of explaining the program, along with certain recommendations which have been accepted and, as a result: (1) Dalhousie Continuing Medical Education has agreed to work with the Committee to set up a short course or seminar on "The Impaired Physician and his Rehabilitation"; (2) each Branch Society President in Nova Scotia has been contacted and requested to provide a liaison member with a special interest in these types of problems, to relate to the Rehabilitation Committee. Requests have also come from the Dalhousie Medical Students Society for liaison, and this approach has been welcome. □



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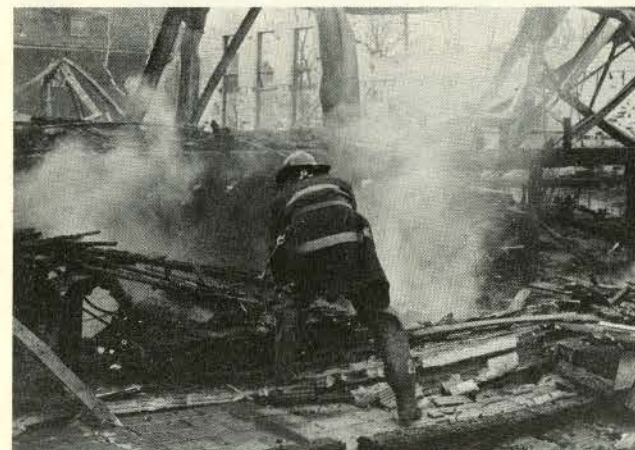
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Requiem on a Rink

B. J. S. Grogono,* M.B.,
Halifax, N.S.



*Within these charred remains
Sped many a gallant hope
As time tracked out her path
Teams clashed upon her face
in glorious combat
and at first daylight
here the finest intricacies were traced
upon a searing blade*

*Look down upon the tangled web of chairs
List to the voices silently arising
Lean back in retrospect and hear
The strong mysterious spark of youth
That is the spur
to human understanding!*

*Like some grotesque dirigible
She lies
Twisted tormented torn
after an allnight
festival of fire*

*Like some gigantic spider
She gapes
her tortuous limbs upheld
to crush the last
memories of an age*

*Her flanks rise still
Contemptuous against the blackened maze
flaunting a jagged edge
around the gaunt entrails
Whilst hooded firemen
Douse and pick upon the complex nest
(and children nonchalantly trip)
about the ebbing cauldron*

*The air is heavy with the afterglow of thought
This is the place where generations (three) enticed their
skills
Here convocations met
(enriched by pageantry, loquacious don, and gown)
Here orators performed
(suffusing gems of wit and wisdom undefiled)
Here students toiled
(under the Rude Examination Rules)
Here sat Dalhousie in her prime*

*Chief of Orthopaedics, The Halifax Infirmary, Halifax, N.S.



The Dalhousie Memorial Rink was constructed in 1950-1951. It cost 175,000 dollars and was built to commemorate Dalhousie students and alumna who died in the Second World War. It was the home for the Canadian Curling Championship in March 1951 and was described as one of the finest university owned rinks in North America.

Besides hockey and figure skating it was used for examinations, convocations and arts and crafts displays. It was burned to the ground in a spectacular blaze on the night of May 14-15, 1978.

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Personal Interest Notes

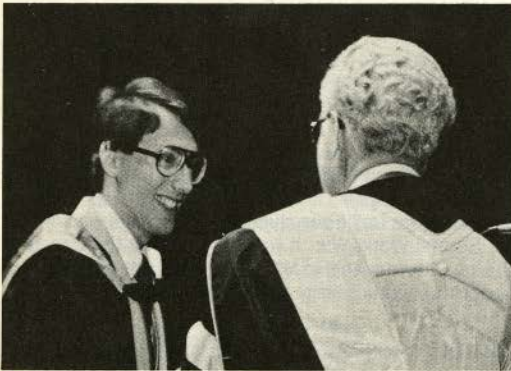
1978 DALHOUSIE UNIVERSITY MEDICAL SCHOOL CONVOCATION

At the convocation of Faculty of Medicine, Dalhousie University on Saturday, May 27, 1978, all 92 members of the fourth year class granted the degree of M.D. — 9 with distinction.



Prize winners at the Faculty of Medicine Convocation, May 27, 1978. Dr. Sonia Russell, Dean J. D. Hatcher, Dr. Anna Timell, Dr. David Hirsch.

Dr. David Jay Hirsch graduated with distinction, having achieved a record of 33 distinctions in the 36 courses taken during his four years of training. During a standing ovation, he was presented with the following awards: The Dr. C. B. Stewart Gold Medal; the Dr. John F. Black prize for highest



Dr. David Hirsch receiving the Dr. C. B. Stewart Gold Medal from Dr. Stewart.

standing in surgery; the Dr. Clara Olding prize for highest aggregate in fourth year; the Andrew James Cowie M.D. Medal for highest standing in obstetrics and gynaecology; the Department of Psychiatry prize for highest standing in psychiatry; and the prize in medicine for highest standing in medicine in all four years.

Dr. Anna Timell of Syracuse, New York and Fredericton, N.B., won the Dr. W. H. Hattie Prize for highest standing in medicine in fourth year.



Dr. Anna Timell receiving the Dr. W. H. Hattie Prize for highest standing in medicine in fourth year.

Dr. Sonia Russell of Halifax, won the Dr. Gordon B. Wiswell Prize for highest standing in pediatrics.



Dr. Sonia Russell receiving the Dr. Gordon B. Wiswell Prize for highest standing in pediatrics.

Honorary degrees were awarded to **Dr. John H. Budd**, President of the American Medical Association and the winner of many other awards including the Distinguished Service Citation from the Ohio State Medical Association — a distinguished alumnus of Dalhousie Faculty of Medicine. **Dr. R. B. McClure**, Toronto, in recognition of his untiring and compassionate service to mankind and his leadership in

medicine and theology. Dr. McClure was a former moderator of the United Church of Canada. **Dr. Ian Rusted**, who gave the convocation address, was the chief architect of the medical school programme at memorial University of Newfoundland.



Honorary degree recipients with Vice President W. A. MacKay. Left to right: Dr. R. B. McClure, Dr. Ian Rusted, Vice President MacKay, and Dr. John Budd.

SILVER JUBILEE MEDAL AWARDS

To honour citizens of the realm, on the occasion of the 25th anniversary of the reign of Queen Elizabeth II, a Silver Jubilee Medal was ordered struck. The British medal has been presented to individuals in the United Kingdom and other Commonwealth countries, but the Canadian Government, with the approval of the Queen, decided to issue its own Silver Jubilee Medal.

The obverse of the Canadian medal is identical to the British medal, bearing a replica of the Queen's profile, wearing a crown, but the reverse side has a distinctive Canadian design. The reverse of the British medal has a crown wreathed with silver birch leaves and catkins, and the wording "the 25th year of the reign of Queen Elizabeth II, 6 February, 1977." The Canadian medal reverse shows a stylized maple leaf, with the lettering **CANADA** at the top and along the bottom the dates 1952 and 1977 separated by the symbolic **E II R**.

The following is a list of the Society Members who Received the Silver Jubilee Medal:

Dr. Frederick J. Barton, Halifax; Dr. Philip Belitsky, Halifax; Dr. Brian M. Chandler, Halifax; Dr. Basil K. Coady, Bedford Arm; Dr. Allan D. Cohen, Halifax; Dr. Herbert R. Corbett, Sydney; Dr. John H. Feindel, Halifax; Dr. Abraham R. Gaum, Sydney; Dr. Daniel A. Gillis, Halifax; Dr. Richard B. Goldbloom, Halifax; Dr. Thomas W. Gorman, Antigonish, (Deceased); Dr. Clarence L. Gosse, Halifax; Dr. Charles M. Harlow, Dartmouth; Dr. J. Donald, Hatcher, Halifax; Dr. Michael O. Hebb, Dartmouth; Dr. Robert O. Jones, Halifax; Dr. G. Ross Langley, Halifax; Dr. Maynard C. MacAskill, Victoria Co.; Dr. Malcolm A. MacAulay, Halifax; Dr. Michael R. MacDonald, Halifax; Dr. John R. McCleave, Digby; Dr. Thomas J. McKeough, Sydney Mines; Dr. Enid MacLeod, Dartmouth; Dr. J. E. Harris Miller, Halifax; Dr. Jephtha S. Munro, North Sydney; Dr. Harry P. Poulos, Dartmouth; Dr. John H. Quigley, Halifax; Dr. Daniel S. Reid, Pictou; Dr. Donald S. Robb, Westmount; Dr. J. Sinclair Robertson,

Halifax; Dr. Stuart C. Robinson, Halifax; Dr. Chester B. Stewart, Halifax; Dr. Hereford C. Still, Halifax; Dr. W. R. Carl Tupper, Halifax; Dr. Clennel E. van Rooyen, Halifax; Dr. Andrew S. Wenning, Halifax; Dr. John C. Wickwire, Liverpool.

Dr. W. A. (Bill) Cochrane is again on the move — this time to become President and Executive Officer of Connaught Laboratories Limited. Dr. Cochrane is an honorary member of the Nova Scotia Medical Society. Congratulations, Bill.

Dr. J. E. Harris Miller has been promoted to Knight in the Order of St. John. Harris began his work with St. John Ambulance in the 1950's and has progressed steadily up to this high honor. He is a life member of the Order and received the St. John Service Medal in 1975.

Dr. Margaret E. B. Gosse has been given the highest award by the Canadian Cancer Society for outstanding service. She was awarded a national honorary life membership. *The Bulletin* adds its congratulations and good wishes to Dr. Gosse.

At a testimonial dinner arranged by the students of Baddeck Rural High School, **Dr. C. M. Bethune (Tabby)** was presented the community service award by Dr. Maynard MacAskill. Dr. Bethune has been a diving force in the community, having participated in many school and community functions. *The Bulletin* is certain that Tabby regards this among his greatest accolades.

Dr. Malcolm MacAulay has vacated the directorship of the division of chemical chemistry at Dalhousie and assumed the post of medical director of the Victoria General Hospital. Congratulations, Malcolm.

The Bulletin is pleased to learn that a new Canadian history book for grades 8 & 9 will be using items from the *Bulletins* of 1925-37. These include the visit of Sir Charles Scott Sherrington, (1927); the obituary of Judson Burpee Black (1925); and an advertisement for Dalhousie University (1929).

OBITUARIES

Dr. Francis J. Hanko, 50, of Dartmouth, N.S. died May 28, 1978 at home. Born in Czechoslovakia, he graduated from the Medical School, University of Ottawa in 1952. He has practised medicine in Dartmouth for the past 23 years. Sincere sympathy is offered to his family.

Dr. Edward G. Kelly, 62, of Amherst, N.S. died April 23, 1978 at the Victoria General Hospital. Dr. Kelly was born in Summerville, P.E.I. and received his Medical Degree from Dalhousie University in 1953. He practised medicine in Amherst for the past 22 years and was an active member of the Highland View Regional Hospital. Our deepest sympathy is extended to his family.

Dr. Henry J. Townsend, 71, of New Glasgow, died May 25, 1978 in the Victoria General Hospital. Born in New Glasgow, N.S. he graduated from Dalhousie Medical School in 1930. After postgraduate study in Montreal and London, England, he returned to New Glasgow to set up practice. He served overseas during the Second World War. Our sympathy is extended to his wife and family.

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The Medical Society of Nova Scotia

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