The Children's Hospital

Maureen H. Roberts, M.B., Ch.B.

PAEDIATRICS can hardly be regarded as one of the more specialized specialties since every family doctor finds that at least half of his patients are children, and most general practitioners are well experienced in the usual diseases of childhood. None the less with the ever increasing complications in diagnostic procedures and the ever increasing literature on abnormalities of body function, to say nothing of the mechanisms of the disease processes themselves, there comes a point at which a busy doctor ceases to be able to absorb any further knowledge in the limited time available at the end of a day's work. This is the stage at which the specialist paediatricians and the specially equipped children's hospitals can be of most use to the community.

The Children's Hospital in Halifax, which is the only one of its kind in the Maritimes, has a history of 48 years service to the community. Started in 1909 in a modest way with 16 beds, it has never ceased to grow in size and scope through the devoted work of its early pioneers, the names of whom are familiar to most of the doctors in the province—but even since their time during the past 10 years the hospital has doubled its size and its range of service, until now it takes its place among the paediatric centres of Canada as a recognized training school for nurses, undergraduate medical students and postgraduate specialist trainees. During these 10 years the active specialist staff of the hospital has tripled and the work has become more complicated and has branched inevitably into many ramifications. There are now 11 paediatricians in charge of the medical patients, each of whom confines his time to the care of children, and the hospital has in addition its own Surgical, E.E.N.T., Urological, Anaesthetic, Radiological, Orthopaedic and soon Pathology Departments. The average admission rate is nearly 700 patients per month, of whom about half are on the ward service and the others semi-private. On the semi-private service facilities are given to general practitioners to treat their own patients, and most of the local doctors avail themselves of these. About one-third of semi-private patients are treated by general practitioners.

The Hospital runs an extensive undergraduate teaching program and in addition holds weekly staff conferences both medical and surgical at which any interested doctor is always welcome. Besides this, special postgraduate weeks are organized from time to time, and the number of doctors in the maritimes who have attended these has been very gratifying. Frequently distinguished guests from Canada, U.S.A., or Great Britain are invited as lecturers and the hospital recently has been honoured by lecture visits from Drs. Goldbloom and Alan Ross from Montreal, Drs. Emmett Holt, Jr., Rubin and Neuhauser from U.S.A., Drs. Ebbs and Chute from Toronto. The holding of such lectures as these as well as the regular attendance at major Paediatric and other conferences in Canada and the U.S.A. by members of the staff keep the hospital abreast of the current trends.

But even these changes have not produced a feeling of complacence in the staff of the Hospital. There are still many limitations, some of which are due to the enormous cost of necessary extra buildings which are already badly needed and some are due to lack of staff and funds for more research, without which assessment of the results and trials of new procedures cannot be satisfactorily accomplished. But these things will come in time, of that there is no doubt, and with the goodwill and continued support of the profession, the Hospital can look forward with high hopes to many future years of service to the children of the Maritimes.

Resuscitation Of The Newborn

G. B. Wiswell, M.D.

ONE of the greatest tragedies we have to face is the loss of a new born baby due to our failure to make him breathe.

It is a problem that all of us have to deal with at one time or another. We are suddenly confronted with the situation over which we lose control very quickly. It is a combination of circumstances which continues to be filled with uncertainty—and as we travel here and there and read more and more, we fail to arrive at the best solution of the problem, whether we use our hands, our machines or our drugs.

It is true that the factors at work whereby breathing is established, the physiological, pathological, and biochemical, are not always understood. It is useless to expect that a baby with a gross congenital anomaly can be resuscitated, so that it becomes our first duty to assess the baby immediately to find out whether it is possible to make it breathe. Sixteen percent of new born babies require resuscitation.

What is already present through no fault of our own cannot be prevented. The techniques of resuscitation are of little value if the baby has irreparable defects or damage to vital organs. After rendering the aid called for to overcome the immediate emergency, we can pause for a moment to reassess its critical state and attempt to correct the cause responsible for the failure to breathe. We must realize that the extent of the problem of asphyxia has not been revealed and we have a great deal to learn about prevention, but in the meantime we have the baby who does not breathe, and how therefore do we resuscitate him? Where the continuity of the respiratory cycle is broken is important, but we have only 5 to 10 minutes at our disposal, after which irreparable damage may be done to the central nervous system. If death does not ensue, the problem of their care later in life is a serious one. When total anoxia lasts 3 minutes, permanent injury results.

There are three major areas where we can look for organic changes—the brain, the heart and the lungs and most often in the brain. There is not very much to be done about a brain that is not working because of anoxia except to retrace our steps and prevent it. We can help a distressed heart, and we can improve the lung failure chiefly by removing obstruction and supplying oxygen. The baby cannot survive for more than 10 minutes without oxygen and it holds the key to most of our difficulties of resuscitation.

We have tried to stimulate these babies in all kinds of ways—probably because we feel that if we don't hurry, the baby will die. This makes us unreasonable and we slap, prod, shake, hang upsidedown and downside up, rock, massage, dilate sphincters, puff and blow into its mouth, puncture with needles and inject chemicals, apply heat and then cold, give too much or too little oxygen, and in the meantime the baby breathes in spite of us and for physiological reasons.

We have finally thrown out the machines. We used them to have something to blame besides ourselves. They were standardized for adults and it was asumed that they would be good for newborn infants. They were more often out of order anyway, thus the baby breathes if at all, in spite of them. Resuscitation is carried out by too many different kinds of people who are not familiar with these mechanical devices.

At the present time whether a newborn baby can be made to breathe depends on many factors involving the obstetrician, the gynecologist, the family physician, the haematologist, the paediatrician, and the anesthesiologist and maybe the pathologist and statistician, and the nursing staff will be mothering it and keeping it alive. As a result, there is still a large amount of work to be done in the research fields of all the above agents before answers can be given to the problems of the prevention and treatment of asphyxia of the new born.

The question is then, "How do we resuscitate a baby?" We must never be complacent or casual about whether a baby is going to breathe. It is quite true that 98 out of 100 do without any particular help from us, but the other two babies are dying too often and it is these babies that everyone of us must be ready to save, and have available at our hand the means to do so. If a baby has not breathed at the end of one minute, he becomes an emergency and may need everything at our command to help him.

Responsibility for the resuscitation of newborn infants must be divided into two parts:

1. The education and training of those responsible and
2. The delegation of responsibility in actual practice.

Resuscitation is an emergency procedure. There is no uniform set up for personnel at each delivery, but any personnel present must give way to knowledge and experience in order to save the baby. It is absolutely essential that a person trained in resuscitation methods should have all the responsibility of making the baby breathe.

We have introduced a rule recently at the Grace Maternity Hospital whereby the Resident on duty is trained and practiced in the art of resuscitation. When any baby refuses to respond to the ordinary factors which make him be born fighting mad and yelling, the Resident is asked to take over. He is also present at all difficult deliveries and caesareans. We have assembled on one baby carriage the materials and tools required to resuscitate the baby.

The use of sedatives for the mother is always a matter of choice for each physician and varies considerably—whether they interfere with the resuscitation of the baby may still be debated but the majority think the baby is much better off without them.

As for those drugs which have been used to stimulate breathing, they are all useless and dangerous. The border-line between toxic and safe doses is a thin one. It is conceded that once the baby has breathed, caffein is the best and safest in $\frac{1}{4}$ to $\frac{1}{2}$ grain doses. I.V. administration by the cord is the best route. The intra-cardiac route has no advantages. Central nervous system stimulants increase the need for oxygen and in its absence, this effect will aggravate the anoxia. Nalline, 2 mgm., is partially successful in counteracting the effect of morphine.

A relative cyanosis is a normal condition at birth. This is replaced by the normal pink color within a few minutes. If not, oxygen is supportive therapy and if the heart rate is below 100 or above 160 or is irregular and this persists for 60 seconds, oxygen is needed. The best concentration is between 30 and 40% and never more, particularly in the prematures. Higher concentrations are irritating also. At the same time, we must find out the cause of the poor ventilation.

The new born baby with an obstructed airway is helpless until the obstruction is removed. An open airway is the sine qua non of success and oxygen must be available in high concentration for that first breath. For this, the

head-down position is mandatory while the mouth and pharynx are cleared of fluids by milking and suction. Delay cutting of cord until first breath is taken. A metal pharyngeal airway prevents the tongue from lying against the walls and so blocking the airway. If breathing does not start at this point, the larynx is inspected by direct laryngoscopy for anomalies, and liquid obstruction is aspirated. The trachea is intubated and the lungs inflated by positive manual intermittent pressure with oxygen from reservoir bag and with tight fitting mask, and safety Stephen-Slater valve. This is not intended to inflate the alveoli directly but to aid the infant to resuscitate himself. Positive pressures in excess of 25 cm. of water will cause emphysema and rupture.

An alternative method is to use mouth to mouth insufflation. Oxygen is allowed to flow past the mouths of the operator and the baby while short puffs are made with cheek pressure into the end of the intratracheal tube.

Carbon dioxide has no place in the resuscitation of the baby.

It is important to keep the baby warm but not hot. Heat loss is serious. Cold baths are never used. Some babies breathe in spite of spanking—none because of it.

Artificial respiration and compression of the chest have no effect when the lungs are collapsed.

The one two three of resuscitation may be put down then as follows:

1. Clear the airway by inversion and keep the head down always. Suck out the fluids as well—delay cutting the cord.
2. Aspirate the nasal cavities to test for reflex irritability.
3. Aspirate stomach contents to remove fluids and test for oesophageal fistula.
4. Note the heart beat and assess for brain anoxia.
5. Insert metal pharyngeal airway to keep tongue out of the way.
6. By direct view with laryngoscope intubate the trachea with No. 12 tube and suck out the obstructing fluids.
7. Inflate the lungs by positive intermittent pressure with oxygen from reservoir bag with tight fitting mask and safety Stephen-Slater valve.
8. Mouth to mouth insufflation by short puffs of oxygen saturated air by the operator directly into the intra-tracheal catheter.

If the baby is not breathing at this point, the reason will be found in the brain if not revealed elsewhere.

When the above procedures have been carried out and failure results, we are justified in assuming that everything has been done to save the baby. We are convinced as well that by so doing we are going to save some of those babies which we have been losing in the past.

Congestive Heart Failure In Children

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HEART failure in the pediatric group is not a common occurrence. With recent advances in treatment directed to removal or alleviation of the causative factors of heart failure in children, recognition and proper management have become increasingly more important. The syndrome of heart failure in children is quite a different one to the one we recognize and treat in adults. It is, accordingly, all too frequently misdiagnosed or mistreated. It is for these reasons this paper is being presented.

It is difficult to define Congestive Heart Failure. We can only say it is a syndrome associated with heart disease, resulting basically from the inability of the heart to empty itself. The manner in which the clinical manifestations present themselves is unknown. When the left heart fails one is likely to see shortness of breath, tachypnoea, orthopnoea, pulmonary râles, left hydrothorax gallop rhythm, pulsus alternans, and increased pulmonary closure. When the right side of the heart is at fault one may characteristically see clinical evidence of increased venous pressure, an enlarged and sometimes tender liver, dependent oedema, oliguria, right hydrothorax and hydropericardium. It is not the intent of this paper to indicate all the possible causes of heart failure in children. As one can readily see, however, mechanisms of rendering the ventricle unable to discharge its contents include obstruction of inflow into the ventricle, as in pericardial disease; inability of the myocardium to carry out its work due to inflammation, degeneration, or certain metabolic effects such as hyperthyroidism; valvular obstruction or insufficiency; inability of the myocardium, albeit healthy, to cope with added load such as increased pressures in pulmonary or systemic circuits, or large shunt which greatly increases cardiac output. One can readily see that more than one such factor can occur in the same child.

Congestive failure may appear at any period in this age group. We have observed cases in which failure occurred immediately following birth. Such babies are frequently misdiagnosed as cretinism, kidney disease, or electrolyte imbalance. When failure is due to a congenital lesion, it is more likely to occur during the first year of life. Failure due to rheumatic heart disease is unlikely to occur before the fourth year and always indicates active carditis. When failure presents itself in the absence of heart murmurs in an acyanotic child it is very likely due to endocardial fibroelastosis. The exception to this is failure associated with an abnormal heart rhythm, in which event the rate will very likely be in excess of 200 per minute. To this hodge-podge of facts might be added that if heart failure appears in a child who was cyanosed prior to the onset of failure, the underlying congenital lesion is very likely an inoperable one.

Clinical Picture

As noted one may see left or right sided heart failure, or not uncommonly both together. Right sided failure occurs more frequently in the pediatric group. The characteristic picture of right sided failure in adults is that of increased venous pressure, hepatomegaly, peripheral oedema, hydrothorax and possibly hydropericardium. The picture in children varies from this as

follows: one rarely see *dependent oedema* in right heart failure in children. In infants particularly oedema is facial and initially periorbital. These children look like nephrotics. *Hepatomegaly* is difficult to assess due to the variability of the degree to which the liver can be palpated in normal children. The liver is probably pathological if one or more of the following are present: a liver palpable beyond two finger-breadths; a liver which has changed in size either having become increased with onset of failure or having decreased with treatment; liver tenderness. Unless extremely marked, *venous distention* is a most elusive sign in infants. We have occasionally observed scalp veins being distended, but generally this sign has not been of much diagnostic import. In older children it follows fairly closely the pattern of adults. *Hydrothorax* and *hydropericardium* are infrequently seen in heart failure in children. *Cyanosis* when marked is usually due to the underlying lesion and represents a right to left shunt. It may occur in association with the heart failure itself, in which event it is usually not marked, and the baby will be ashen in colour rather than blue.

The classical picture of left heart failure in the adult is that of dyspnoea, orthopnoea, cough, pulmonary râles, gallop rhythm, pulsus alternans, cardiac asthma, and hydrothorax. If severe or prolonged the picture of right heart failure may be superimposed. The symptoms of *shortness of breath* is of no aid in the infant group, and is difficult to elicit in the older child. *Tachypnoea* is of more importance, and a respiratory rate of 50 to 100 per minute is common in an infant with congestive failure, and we have observed rates as high as 130 per minute. In contrast to adults, *pulmonary rales* are an inconstant sign, occurring in less than 50% of cases, and then generally only when the condition is marked. The common accompaniment of respiratory infection also renders this sign more difficult to interpret. *Increased vascular markings* in the lung fields on chest X-ray is generally present, however, and as such represents a valuable sign. *Cardiac enlargement* by X-ray is invariably present and represents the sine qua non of the diagnosis of congestive heart failure. *Gallop* rhythm is a difficult sign to interpret in children due to the frequent presence of a normal third heart sound. When the heart rate is rapid however the presence of a diastolic gallop is of great aid. *Pulsus alternans* in our experience has been of little value as a diagnostic sign in infants due to the usual rapid heart rate, and the difficulty in eliciting blood pressure readings. A *loud second pulmonic sound* will accompany left heart failure. On occasions this has proved to be a helpful sign, but again is difficult to interpret, since this sound in children normally is louder than the aortic second sound.

To summarize this section on clinical picture, the picture of right heart failure in infants and young children is usually that of periorbital or facial oedema with a large and frequently tender liver. In left heart failure one sees increased heart and respiratory rates, frequently hepatomegaly before pulmonary râles, and increased pulmonary vascular markings by X-ray. Only in most rare exceptions i.e. constrictive pericarditis, is the diagnosis of congestive heart failure tenable in the face of a normal heart size by X-ray.

Treatment

General Measures. It is desirable to diminish cardiac work to a minimum. Some children can be kept at complete bed rest without difficulty. Others become so frustrated by this restriction that the cardiac condition is worsened. This problem should be left to the family physician who best knows the child.

The child should be kept in the orthopnoeic position. A pillow behind the back will suffice for infants. Infants should be turned from side to side at regular intervals to minimize pulmonary stasis. Mild sedation is desirable. With infants and those older children who are not fearful, oxygen therapy is of benefit, particularly if cyanosis is present. Oxygen should be kept at 50% saturation. Higher concentrations may favour the development of atelectasis. Four to 5 litres per minute for incubators, and 8 to 10 litres for tents may be necessary to maintain this saturation.[1] An attempt should be made to maintain the sodium content in the diet below 1 Gm. daily. This level if reached will largely prevent excessive fluid retention in the body.[2] This can be done in infants by using milk with a low sodium content. (Lanolac^{R}). Water may be given ad libitum.

Digitalis: There are two main principles which concern us in the use of this drug. The first is that all cases of congestive heart failure should receive digitalis. The second principle is that the user should familiarize himself with one preparation and know it thoroughly.

While all cases should receive digitalis, its effect despite adequate dosage all too frequently is negligible. Response to the drug tends to vary with the type of disease present. As a rule cyanotic conditions with associated congestive failure respond poorly, while conditions such as patent ductus, coarctation and subendocardial fibroelastosis tend to respond well. There is some question as to whether children with active myocarditis should receive digitalis at all.[3] The general feeling is however that they should, but the response is frequently poor. When it is to be used in cases of failure due to rheumatic carditis, smaller doses of digitalis should be used, as there is evidence that digitalis toxicity can occur much more readily in this type of case.[4]

In many instances it will be difficult to determine whether the child is in failure. A trial of digitalis is desirable, following closely liver size and heart size and pulmonary vascular markings by X-ray. If no change is noted after 5-7 days it may be discontinued.

Digoxin has proved to be a slightly more desirable drug in our experience. Other preparations should however be equally effective when used properly. Digoxin has as its advantage that it is a fairly rapidly acting glycoside, and hence if toxic effects are reached, they disappear quickly when the drug is stopped. It may be administered by intramuscular or intravenous routes, as well as oral. It is available in liquid or tablet form. There is some question as to the completeness of absorption from the gut, so generally slightly greater amounts should be used when administering the drug by oral route. The digitalizing dose of this drug is generally between .03 to .05 mgm per pound body weight. Slightly greater amounts may be required for infants. This loading dose is given as three divided doses in a 24 hour period. The maintenance dose is one-fifth the loading dose. A dosage scale for daily oral maintenance as per different age groups is as follows:

Small newborn	.03 mg.
Large newborn	.05 mg.
Few months to 2 years	.12 to .18 mg.
3 to 8 years	.20 to .25 mg.
8 years and up	.25 to .50 mg.

Should the drug be required as an emergency, it may be given intravenously. One-half the digitalizing dose may be given initially, followed in two to six hours by a portion or all of the remaining amount, carrying on then by oral route if practical.

Digitoxin is somewhat slower in action and has a slower rate of excretion and accordingly if digitoxicity is produced, it will persist for a relatively long time. As a loading dose, children under two years generally require from 0.02 mgm to 0.03 mgm per pound body weight, and children over two years from 0.01 mgm to 0.02 mgm per pound body weight. This again is divided into three doses and given over a 24 hour period. The usual maintenance dose is one-tenth the loading dose.

Cedilanid,[R] a rapidly acting drug, is useful for rapid digitalization for emergency purposes. It is also useful where there is a question as to whether the clinical picture may be that of digitalis overdosage, or congestive failure associated with nausea, vomiting and possibly premature systoles in a person receiving an ineffective dose level of digitalis. The digitalizing dose level is approximately that of digitoxin. In such an instance one-quarter of a digitalizing dose may be given intravenously. Its effect should be maximum in one hour and will be entirely excreted in from 24 to 36 hours. The patient will be made better or worse. If the condition worsens, it will be temporary, and of course all digitalis should be discontinued until an adequate amount has been excreted which will probably be from four to five days but will depend upon the type of drug that the patient has been receiving.

Digitalis, despite the fact that we have been using it for two centuries is a fearfully misused drug. This results from using a fixed dose level and having little perception as to what it is expected to do. To use a current term, each patient should be titrated. Each patient is followed by means of daily body weight, pulse rate, liver size, and general well-being, and the dose adjusted accordingly. One of the commonest misconceptions about digitalis is its effect upon the pulse-rate. There is hardly a week which will go by but that we will find an instance where an interne has discontinued digitalis because the pulse rate is 60 per minute. Digitalis will not directly affect the pulse rate except in certain instances. If the pulse rate falls, it is due to the effect of the amelioration of the state of failure. It only directly affects the pulse rate when auricular fibrillation or other ectopic tachycardias are present, or in rare instances where digitoxicity is present to the degree that it causes second or third degree heart block.

Of the manifestations of digitalis overdosage, vomiting is by far the most frequent. Headache and visual disturbances occur less frequently. Atrial arrhythmias tend to occur more commonly in children than in adults as a result of digitalis toxicity. Ventricular arrhythmias are less commonly seen. As in adults ventricular premature beats when they do occur, tend to occur in bigeminy. The electrocardiogram is usually very helpful in determining whether digitalis toxicity is present, but contrary to general belief, is of no value in determining if optimum digital effect is present.

When digitalis toxicity occurs, removal of the drug is indicated, the period of abstinence depending upon the type of drug being used and the degree of overdosage present. This usually is from three to six days. If a paroxysmal atrial tachycardia is present, oral administration of potassium chloride in doses of 1 to 2 gm. per day in divided doses is indicated.

Diuretics: As previously stated, many cases of congestive failure in children will respond poorly, if at all, to digitalis. In such cases the use of a mercurial diuretic is desirable. Some workers as well prefer the use of mercurials to digitalis in rheumatic carditis.[5] In most cases however, a trial of digitalis therapy is desirable prior to using mercurials.

A mercurial diuretic should in no instance be given intravenously. Thiomerin[R] has proved to be a useful drug for subcutaneous injection. The dose range in which this drug has been found to be effective is as follows:

Under 1 year	.12 to .25 ml.
1 to 5 years	.25 ml.
5 to 13 years	.25 to .50 ml.

Mercuhydrin[R] by intramuscular injection is equally effective. Its dose is slightly greater than Thiomerin, with a dose of 1.0 ml.being required at times for older children. In all instances a small test dose of 0.10 ml. should be given on the first day, as a test for mercurial sensitivity. Injections may then be given as required, whether it be every two days, bi-weekly or weekly. The use of mercurials is contraindicated in the face of renal insufficiency. Albuminuria by itself should of course not be taken as evidence of renal disease, because as high as 3 plus albuminuria may be caused by congestive heart failure alone.

Frequently the patient will become refractory to mercurials. Mercurial therapy should then be augmented by the use of other agents. Ammonium Chloride in daily doses of from one to four gm. daily for two days prior to the mercurial injection may be helpful. Diamox[R], or Mictine[R] in doses of from 50 to 250 mgm daily for the same period may achieve the same effect. Apart from their use in augmenting the effect of mercurials, diuretics other than organomercurials have little indication in the treatment of congestive heart failure in children. The use of aminophylline in children is fraught with definite hazards.[6] The newer oral diuretics which have their action in inhibiting carbonic anhydrase activity, are not too satisfactory for pediatric use, as acid-base balance is very labile in the acutely ill child.

If mercurials are to be used over a prolonged period, excessive amounts of chloride and potassium ions may be excreted. This may result in the *low salt syndrome*, or as a result of potassium loss may precipitate digitalis intoxication. To prevent these conditions from occurring, ammonium chloride should be given for two days prior to the mercurial injection, and the child should be on a continuous high potassium intake (a quart of orange juice daily or 1 to 1.5 gm. of potassium chloride daily.[7])

Treatment of Underlying Condition

Until recently treatment of congestive heart failure in children was for the most part nothing but a delaying action to an inevitable end. Now surgical procedures are available for many of the congenital lesions and can be carried out as early as one month of age. True, surgery at this age carries a high mortality, but many cases can be salvaged and be allowed to lead normal lives. Such lesions as patent ductus, coarctation of the aorta, aortic stenosis, mitral stenosis, pure pulmonic stenosis and constrictive pericarditis all may cause heart failure and if this can be controlled odds favour their correction by surgery. Other lesions such as atrial septal defect carry a higher mortality, but can at times be successfully treated. With new procedures being developed the picture is constantly changing, and the list of operable lesions is constantly growing.

Advances have as well been made in the treatment of non-surgical conditions. Corticoid therapy can be life-saving in the patient with rheumatic carditis and heart failure. Our present day armamentarium of antibiotics now allows successful treatment of most cases of subacute bacterial endocarditis.

Accordingly, cases of congestive heart failure in children should be treated early and vigorously. In cases where the underlying cause is not rheumatic carditis, the physician after institution of medical therapy, is advised to refer this child without delay to a centre where thorough investigation and surgery can be carried out if indicated. Many cases will prove to be inoperable, but this decision generally requires the skill of a team of highly trained individuals.

The presence of anaemia in a child with congestive heart failure may frequently be overlooked. This should be treated by the use of several small transfusions of packed cells—from 25 to 100 cc at a time depending upon the size of the child. The anaemia which frequently accompanies rheumatic carditis generally responds well to the use of corticoid therapy.

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*R Proprietary Drug.

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Childhood Poison Control In Nova Scotia

P. M. Sigsworth, M.D.

THE incidence of poisoning as a cause of death is greatest in the 1-4 year range. These children are explorers and adventurers, they will pick things up, smell them, and put them in their mouths.

Poison control centres have been in operation in the United States for many years and more recently in Canada under the Federal Department of National Health and Welfare. These centres act as a source of reliable information and service which will be available to practising physicians and hospitals who may be called upon to treat cases of poisoning. In recent weeks such a centre has been established in Halifax and in this first official publication I hope to outline to the profession in Nova Scotia the extent of our efforts up to the present, some of our plans for the future as well as a few general principles in the management of poisoning cases.

Through the co-operation of the Food and Drug Directorate, Ottawa, we have been furnished with a set of approximately 700 cards listing the potentially toxic ingredients in most of the household chemicals and medicines available in Canada along with the symptoms of toxicity and treatment. The cards are kept filed in the Emergency room at the Children's Hospital where equipment and drugs for the treatment of acute poisoning are always available nearby.

The core around which the program operates will be the Children's Hospital. The agencies and institutions participating will be as follows:

(1) Provincial Health Department
(2) City Health Department
(3) Public Health Nurses
(4) Industrial Laboratory
(5) Pharmacy College
(6) Halifax Medical Society
(7) Nova Scotia Medical Society
(8) Medical School (Department of Pharmacy, etc.)
(9) Coroner's or Medical Examiners Laboratory or Office.

The purpose of such a program will be:
(1) To increase the knowledge of potentially toxic substances and to keep abreast of developments in the field of synthetic chemistry and toxicology and, if necessary, to make telephone contacts with the manufacturer.
(2) To encourage the manufacturers of drugs, household and commercial products to list the ingredients on the labels.
(3) To find out the circumstances in which the poison was taken and to support publicity and the education of parents and parent groups concerning the dangers lurking in their homes.

The management of poisoning cases at present is as follows:
The Resident doctor on duty at the Children's Hospital will give information at any time regarding treatment, etc. to physicians and first aid instructions to parents, also if necessary telephoning an outside consultant.

Physicians treating patients outside of hospital are encouraged to phone the control centre for information regarding emergency treatment and management. In such cases, the physicians' and patients' names are recorded and the

physician contacted again in 24-36 hours. This data is recorded on the "Report of Poisoning" sheets as is also the data on cases treated at the hospital.

Physicians treating patients outside of the hospital who have no need for help from the Control Centre are asked to report the data on the case at its conclusion to the Centre for statistical purposes.

The City and Provincial Public Health Nurses are notified and they make home visits and report their findings on the "Follow-up of Poisoning" sheets.

These reports are filed at the Centre and copies are forwarded to the Food and Drug Directorate, Ottawa.

Physicians will be supplied upon request with sample "poisoning" and "follow-up" sheets so they will be familiar with questions to be asked later.

Although information will gladly be given regarding first aid and treatment of cases over age 15 years, no records will be kept of these cases at the Children's Hospital.

The diagnosis of poisoning in most cases is simple, from the finding of the child along with the evidence of consumed or partially consumed material is the usual case. However, it must not be forgotten that poisoning in children may simulate the onset of any acute illness. Unexplained symptoms in any young child should at least raise the suspicion of poisoning, either of an acute or chronic nature.

(1) Important Signs and Symptoms:

(A) Disturbance of cardiac function
arrhythmias: — digitalis, quinidine, squill
tachycardia: — atropine, benzedrine, ephedrine, cocaine.
bradycardia: — barbiturates, chloral, opiates, veratrum.

(B) Central nervous system symptoms:
Depression:— Anti-histaminics, barbiturates, chloral, opiates, chloroform, hydrocarbons, methyl chloride (refrigerators) alcohol (late)
Confusion, mania, delirium: aromatics (benzene, toluene or xylene) atropine, benzedrine, ephedrine, cocaine, quinine, alcohol (early) bromides.
Stimulation, convulsions — lead, cocaine, D.D.T. camphor, oxalic acid, strychnine.

(C) Cyanosis, pallor, anoxia, hemolysis: anilines, nitrites, fluorides, cyanides, carbon monoxide, carbon dioxide, nitrobenzene.

(D) Eye signs — colored vision — digitalis, quinine, santonin, aspidium.
Diplopia — botulism
Dilated pupils: — atropine, nicotine (late)
ephedrine, benzedrine, fluorides, and many insecticides.
Pinpoint pupils: — opiates, nicotine (early) mushrooms.
Scotomata: — quinine, salicylates.

(E) Gastrointestnal disorders primarily — metals (mercury, arsenic, antimony, ferrous sulfate, zinc) boric acid, digitalis, gentian violet, iodine, phenolphthalein, bacterial toxins.

(F) Gastrointestinal disorders followed by cyanosis, pallor: potassium, chlorate or bromate.

(G) Gastrointestinal disorders followed by central nervous system symptoms: methyl alcohol, boric acid, carbontetrachloride, formaldehyde, nicotine, phenol, turpentine, mushrooms.

DEPARTMENT OF NATIONAL HEALTH AND WELFARE – POISON CONTROL PROGRAM

REPORT OF POISONING

Please mail one copy of this form when completed to: "Poison Control Program":
Food and Drug Directorate
Ottawa, Ontario.

Name of Poison Control Center (Fill out by typing or printing immediately following discharge of patient)

Name of Patient	Address of Patient	Parent or Guardian	Phone

Name and location of ☐ Hospital or ☐ Physician	Date Admitted	Birthdate	Sex ☐ Male ☐ Female

Type of product (insecticide, fuel oil, bleach, etc.)	Accident ☐ Yes ☐ No	Overdose ☐ Yes ☐ No	Toxic Constituent (arsenic, hypochlorite, etc)

Trade Name *	Available for Analysis ☐ Yes ☐ No	Name and address of manufacturer

Amount Taken	Date	Time Taken	Vomited ☐ Yes ☐ No ☐ Induced ☐ Spontaneous	Time Vomited	Stomach Lavaged ☐ Yes ☐ No	Fluid Used	Time Lavaged

Signs and Symptoms: ☐ Abdominal pains ☐ Nausea ☐ Vomiting ☐ Dyspnea ☐ Convulsions ☐ Burning in Mouth or Throat ☐ Stupor ☐ Coma ☐ Cyanosis ☐ Diarrhea ☐ Other **

Treatment Given	Hospitalized ☐ Yes ☐ No	Duration of Hospitalization Days	Fatal ☐ Yes ☐ No	Date of death or discharge

Pertinent physical findings and present condition **	Autopsy

Phone inquiry received before sending case to center ☐ Yes ☐ No

Date _____ Signature _____

*Add size of tablet if a medication
**Use reverse for additional notes such as pertinent laboratory or physical findings.

NH&W–F&D 89.VT2434-1256

DEPARTMENT OF NATIONAL HEALTH AND WELFARE – POISON CONTROL PROGRAM

FOLLOW-UP OF POISONING

Please mail one copy of this form when completed to: "Poison Control Program"
Food and Drug Directorate
Ottawa, Ontario.

Name of Poison Control Center (Fill out by typing or printing after follow-up visit)

Name of Patient	Address of Patient	Birthdate

Complications or after effects

Type of substance swallowed	Amount swallowed (estimate)	Trade Name

How did accident happen?*

In what room was substance found? Where in room?	Was this the customary place ☐ Yes ☐ No	Where is substance usually kept?

Type of container (cup, glass, soda bottle, can, etc.)	Was this the original container? ☐ Yes ☐ No

Was there a warning or caution note on the original container label? ☐ Yes ☐ No	If so, how worded? *

Who was caring for child? (Give age if below 12 years)

Did follow-up lead to measures likely to prevent other poisonings? Explain.*

Was a home safety check list left? ☐ Yes ☐ No	Other accident hazard discussed? Explain.*

Were there opportunities to make general health suggestions during the home visit? (For example, immunizations, prenatal care, child hygiene, chronic diseases, etc.) ☐ Yes ☐ No. Describe*

Date _____ Signature _____

* Use reverse for additional space if necessary.

NH&W-F&D 90. VT 2435-1256.

(H) Hyperpyrexia: atropine, quinine, zinc fumes, boric acid, phenolphthalein.
(I) Hyperventilation: salicylates, nicotine, aromatics.
(J) Odor on breath: hydrocarbons, alcohols, turpentine, methyl salicylates (Wintergreen) camphor, cyanides (Bitter almonds) phosphorus and arsenic (garlic odor)
(K) Pneumonitis: hydrocarbons (kerosene) zinc stearate, formaldehyde, or any inhaled irritant such as powdered lime.
(L) Skin changes — rashes.
scarlatiniform — atropine, quinine, boric acid.
other: — phenolphythalein, iodides, aniline
late — arsenic
cherry red — carbon monoxide.
(M) Sweating, salivation, vascular collapse: nicotine, mushrooms. prostigmine, fluorides.
(N) Tetany — fluorides, oxalates.
(O) Local oral lesions and/or stains — formaldehyde, gentian violet, iodine, lye, acids, phenol.
(P) Urine:
Color — turpentine (violet) santonin (pink in alkaline urine, yellow in acid)
Albuminuria — mercury, metals, boric acid, phenol derivatives.

Identification of the Poison:

The parent who calls for aid in a known case of poisoning should be urged to bring to the hospital the container from which the child was poisoned, or a sample of the pills or fluid in question or the box in which the pills were contained. The reason for this would seem to be obvious but it is amazing how few parents bring the evidence along with them. If the poison is unknown or only suspected from the symptoms with no clear history or if there is any medico legal aspect in view, than the collection, storage and transmission of the various specimens can be very important.

(a) *Containers*:

These must be chemically clean, scrubbed with detergent, rinsed with distilled water and hot-air dried (e.g. in an oven).
Specimens should fill container if a volatile substance is suspected.
Containers not having a well-fitted glass stopper must have a tight cork stopper covered on all surfaces with a thin covering of paraffin, then the cork and neck of container dipped in paraffin to insure an air-tight seal.

(b) *Labels*:

Name and hospital number of patient. Date and time sample was obtained. Type of sample, e.g. vomitus, washings, etc. Name and address of physicians. Name and address of person responsible for laboratory expenses.

(c) *History*:

A short history of pertinent facts and symptoms must accompany each specimen. If a sample of the substance ingested is available, it should be submitted; if not available, the name of substance or contents as listed on the label and the name of the manufacturer should be obtained.

(d) *Handling of Specimens*:

All specimens must be refrigerated but not frozen. Specimens properly packed may be mailed but for legal reasons it is advisable that they be delivered in person by the physician who collected them.

Treatment:

First aid measures which may be all that is necessary in mild cases, or which may be carried out by the mother while she waits for the doctor or ambulance. These will depend on the nature of the ingested material, the amount swallowed and the time lag since swallowing, as well as the type and severity of the symptoms. Unless strong alkali or acid has been taken, the parents should try to evacuate the child's stomach immediately by giving a drink of water, milk or egg white followed by a finger or handle of a spoon at the back of the throat. If this fails to produce vomitus, a strong salt solution or a weak mustard solution may be given by mouth. The vomitus should be saved. To prevent aspiration of vomitus the child should be held face down with the head 8-10" lower than the hips.

Once the child comes under the care of the doctor, treatment can become more specific, and can be directed along lines suitable for the actual poison taken, but if this is unknown, waiting for results of tests may be poor judgment. Where the swallowed material is relatively innocuous, avoiding hectic measures that are uncalled for may be the best treatment but if the potential toxic affects are severe and rapid, *no delay* should be allowed.

The following procedures may be carried out first:

(1) Removal of poison by vomiting, lavage or diuresis.
(2) Inactivation of any non-absorbed poison with a general or specific antidote.
(3) Protection of mucous membrane with demulcents.
(4) Combatting shock, or collapse.
(5) Combat any harmful physiological effects of the poison.

I *Elimination of Poison*:

Emesis should be used with extreme caution in unconscious or drowsy patients because of the danger of aspiration pneumonia.

Technique as under first aid measures plus the following:

(1) syrup of ipecac — 1 tsp. in water.
(2) apomorphine HCl — 1 mg. subcutaneously. (This dose for a 1-2 year old child and should not be used if other methods for producing emesis are available and never for patients in coma or for ones who have respiratory depression)

Gastric Aspiration:

Emptying of the stomach by aspiration, lavage or emesis may be of help as long after ingestion as it is reasonable to believe unabsorbed material remains in the stomach.

Some physicians advise against gastric lavage where strong acids or alkalis have been swallowed. Others feel that if a well-lubricated tube is passed within 30-40 minutes after ingestion, the risk of erosion is much less than the risk of leaving the corrosive in the stomach. A similar controversy centres around aspiration after ingestion of kerosene, turpentine, or hydrocarbons.

It is suggested that aspiration pneumonia due to lavage or vomiting is overrated and it is considered that absorption from the gastro-intestinal tract is the chief cause of the pulmonary edema and pneumonia.

Technique:

(1) Use a tube with largest lumen possible orally (No. 28 French or larger)
(2) Lubricate tube well.
(3) Restrain child with sheet restraints. Have the head turned to the side and slightly lower than the hips.
(4) Aspirate contents with syringe or Ewald bulb.
(5) Lavage stomach with 150-200 c.c. of water or saline until return fluid is clear.
(6) Instill specific or universal antidote if indicated.

Catharsis or Calonic Lavage:

In general, these methods are somewhat ineffective and may add to the irritant effect by producing a severe diarrhoea.

If catharsis is indicated, sodium sulfate 2-3 gms. in water is a safe and effective agent for a 2-4 year old child.

II *Inactivation of Poison*:

(A) Universal antidote if poison is unknown.
Pulverized charcoal (burnt toast) — 2 parts.
Magnesium oxide (Milk of Magnesia) — 1 part.
Tannic acid (strong tea) — 1 part.
Mix 2 tablespoons of this mixture per quart of water, rinse the stomach and leave in 250 cc. of this solution (approximately ½ pint)
(B) Neutralize alkalis with dilute vinegar or citrus juices.
(C) Neutralize acids with milk of magnesia or amphojel.
(D) Precipitate chemicals with tannic acid 30 gm. to 1,000 cc. water (strong tea)

III *Protect with Demulcents*:

Fatty or oil demulcents such as olive oil, vegetable oil or milk are inadvisable if the toxic substance is fat soluble. However, demulcents precipitate metals and lessen the absorption of many poisons. They also soothe mucous membranes. Use 3-4 egg whites beaten in a pint of water, skimmed milk or a thin flour or starch mixture.

IV *Supportive and symptomatic measures.*

Keep under close observation to anticipate any immediate or delayed manifestations.

(A) Circulatory Failure:
1. Peripheral vascular collapse.
2. Cardiac failure.
3. Pulmonary edema.

(B) Respiratory abnormalities:
1. Be sure there is an airway. Intubation or tracheotomy may be needed.
2. Hypostatic pneumonia.

3. Respiratory depression
   (a) oxygen
   (b) artificial respiration.

(C) Central nervous system involvement.

1. excitation
   (a) Hypnotic drugs — phenobarbitol, paraldehyde
   (b) specific anticonvulsant drugs — calcium gluconate.
2. Depression:
   "Nalline" is the specific remedy for opiate, one dosage is sufficient.

(D) Dehydration:
Use oral and parenteral fluids.

(E) Pain:
Use analgesic and narcotic drugs.

(F) Urinary Retention:
Catheterization may be necessary.

(G) Hyperpyrexia:
Sponge with equal parts water and rubbing alcohol.

(H) Hypothermia:
Blankets and external heat.

V. Certain poisons such as oil of wintergreen, methyl alcohol, aspirin will cause a dangerous acidosis which may have to be countered with sixth molar lactate solution or even intravenous sodium bicarbonate in severe cases followed by intravenous glucose over a 24 hour period.

I hope that the foregoing outline will be of value to the profession in the treatment of this all too common condition. It is important that doctors, nurses, druggists and teachers should co-operate in stressing to parents the importance of *prevention*.

All parents should make a room to room check of all possible poisons in the home and particularly in such places as the kitchen, bathroom, cellar, garage and workshop. Only by constant vigilance can we save the children's lives.

Neonatal Thrombocytopenic Purpura

Joan M. Crosby, M.D.
Children's Hospital

A Report of Two Cases:

History:

Up to 1954 there were 56 reported cases of this disease in the world literature. Of this number, 21 were born of "normal" mothers, 28 of mothers with idiopathic thrombocytopenic purpura and 4 of mothers with purpura secondary to another disease.

Classification:

The classification of purpura is complex. The following appears to be fairly comprehensive.

A. Symptomatic or secondary—due to drugs, sepsis, scurvy, hemophilia or pseudo hemophilia, leukemia, aplastic anemia and cytomegalic inclusion disease.
B. Non thrombocytopenic or vascular which is probably an allergic reaction in the capillaries and is often called Henoch-Schoenlein Purpura.
C. Idiopathic thrombocytopenic with no recognizable primary cause in all cases.

In neonates this can be further classified into those with:

1. Maternal purpura or history of this.
2. No maternal disorder.
3. Congenital hypoplasia of bone marrow.

The cases here described apparently belong to group C No. 2 or 3, and neither mother showed evidence of the disease, nor had either received any drugs except demerol.

Age Incidence:

In this hospital there are about 10 patients admitted annually with purpura belonging to groups B or C. These 2 described here are the only patients in the neonatal age group, the others ranging from 14 weeks to 15 years.

Both of these cases were males while in the larger group the incidence is about equal between the sexes.

Case Reports:

1. S.E.B. aged 10 weeks on admission April 18, 1954. F.T. breech delivery in hospital. Circumcised at 4 days of age and at this time was given an Intra Muscular injection of Vitamin K in the right deltoid region. By the 5th day of life the site of injection "was the size of a golf ball", and it increased slowly until a few days prior to admission when the area suddenly enlarge radically.

Physical examination revealed a well nourished, well developed 10 week old white male infant weighing 13 pounds, 8 ounces who was pale and had a brawny dark red swelling of the right arm maximal in the deltoid region but extending down to within one inch above the wrist and up over the shoulder girdle onto the anterior chest wall over to the mid line and posteriorly almost to the mid line. There was no excessive local heat. There were scattered petechial spots in the involved area only. No icterus and no hepatosplenomegaly.

Investigation:

Hb. — 7.74 (53%) P.C.V. — 24.5 R.B.C. — 2,680,000
W.B.C. — 14,000 N — 43% J — 6% L — 48% E — 3%
Platelets were scarce — under 30,000.
Bone marrow — gross hypocellularity, normal megakarcyocytes.
Urinalysis — negative.
Stools for occult blood — 3+ one specimen and negative later.
Tourniquet Test — strongly positive.
Bleeding time — prolonged.
X-ray of right arm — soft tissue swelling only.

Course and Therapy:

The baby was transfused repeatedly. He was put on oral cortisone beginning on the second hospital day. Despite this, bleeding continued and platelets remained scanty. Therefore on May 12th a splenectomy was carried out and 12 hours post operatively platelets were still scanty. In 24 hours there was a slight increase and at 48 hours platelets were essentially normal.

8 days post operatively dyspnoea and wheezing developed and bleeding into arm began again. The course was then steadily downhill despite antibiotics, transfusions and steroids and the baby expired on June 7, 1954. Autopsy showed extensive patchy areas of haemorrhage into both lungs. There was no intra-cranial haemorrhage.

2. G.R.M — newborn on admission.

F.T.N.D. weight 8 pounds, 8 ounces. Born on November 15th at 10 a.m. At birth 1 or 2 petechial spots were noted on the chin. By 3 hours of age the child was covered with a petechial eruption which was most marked on the face. The baby was a good color with no icterus nor hepatosplenomegaly. He had bilateral cepholohaematomas.

Investigation:

Hb. — 14.06 W.B.C. — 14,000 N — 34 L — 58
M — 6 E — 2
The platelets were scanty until December 7th when they began to increase.
Urine — negative.
Coombs Test — direct and indirect — negative.
Blood Culture — negative.
The bone marrow showed a complete absence of megakarcyocytes but was otherwise normal.
Red cell osmotic fragility — normal.

Platelet counts of both parents — normal.
December 14 — A few spherocytes noted on smear, platelets still diminished somewhat.
December 27 — Many spherocytes, normal platelets.
Skull X-ray — marked separation of sutures, calcified haematoma in the right occipital region.

Course and Treatment:

The baby was immediately on admission put on crystalline penicillin and metacortin. On the second day deep jaundice appeared which did not entirely disappear until 1½ months of age. He was transfused on several occasions. He was discharged on December 29th with a normal platelet count on metacortin in maintenance dosage.

He was readmitted on January 29, 1957 for recheck.
Weight — 11 pounds, 5 ounces.
Hb — 89% W.B.C. — 10,400 N — 36 L — 67 E — 7
Platelets — 300,000
The Metacortin was gradually reduced.
He was readmitted on April 1, 1957.
Weight — 14 pounds, 15 ounces.
He was taken off cortisone for 2 weeks.
Hb — 11.56 W.B.C. — 9,000 N — 39 L — 60 E — 1
Normal platelets.
He was readmitted on June 26, 1957.
Weight — 19 pounds, 5 ounces.
W.B.C. — 9,350 N — 46 L — 54 Hb — 12.36
Platelets — normal.

Discussion:

Apparently both mothers of our patients were normal and yet the infants developed manifestations of the disease at very early ages. This brings up the controversial question of etiology.

The observed phenomena are suggestive of:

(a) a sex-linked genetic disorder
(b) the mothers may have been suffering from idiopathic thrombocytopenic purpura and been in a remission during pregnancy but passed platelet agglutinins through the placenta.
(c) Development of the disease in the infant at an abnormally early age. This may be due to overproduction of a factor which causes arrest of platelet production by megakaryocytes.

Recommendations for treatment are limited to repeated transfusions, treatment of infection, the use of steroids and finally splenectomy. The latter method is not invariably successful in arresting the disease process and was not successful in the case described above.

Summary:

Two cases of neonatal purpura are described, one ending fatally, the other treated successfully.

Etiology and treatment are discussed.

Thanks are due to Dr. G. B. Wiswell, and Dr. J. Brown for permission to publish these cases.

A Case of Rectal Bleeding

Ronald M. Ritchie, M.D.
Associate Physician, Children's Hospital

BABY K.R. aged 8 weeks was admitted to the Halifax Children's Hospital with a history of losing weight for one month. He was said by the mother always to have eaten well until one day before admission, and never to have vomited. He had no diarrhoea, but had slept a great deal the two days prior to admission. His birth weight was 7 lbs. 6 ozs. and he was said to have weighed 9 lbs. 6 ozs. at one month. The formula was said to have been equal parts of Carnation and water plus corn syrup for one month, and then because the child had a cold it was cut down to water 18 ozs. and "milk" 2 ozs.—probably an error for 12 ozs.—which may have been given for the whole of the second month. The historian who recorded the history reported that the mother seemed very muddled and contradicted herself many times.

Examination on admission revealed extreme dehydration in an almost moribund child weighing approximately 5 lbs., and active measures for resuscitation were carried out including an intravenous drip and i.v. adrenal cortical extract. The following investigations were done on admission with the results shown:—

Blood electrolytes sodium 135 mEq
chlorides 108.3 mEq
potassium 5.48 mEq
CO_2 17.7 mEq

C. S. F. no W.B.C., numerous R.B.C.
Haemoglobin 84% (dehydrated)
Urinalysis no abnormality.

Progress.

The child was placed on penicillin and chloromycetin as well as the intravenous glucose and improved slowly. On the next day he passed two bloody bowel movements, and the haemoglobin was 59%. 70 c.c. of grouped blood was given. By the third day the child looked much improved, but late that afternoon he passed within half an hour 3 bloody bowel movements, the first tarry, but the next two fairly bright blood. He become shocked and grey in colour, and a blood transfusion of 100 c.c. was given. Meantime all blood chemistry was within normal limits, and no blood dyscrasia could be found. On the 5th and 6th days one bleeding episode each day occurred, but there was some improvement and the haemoglobin rose to 84%. A rectal exam showed no abnormality or cause for the bleeding, so on the 7th day a laparotomy was done, and a bleeding Meckel's diverticulum ruled out, no polyp was found, no reduplication of bowel, and no cause for the bleeding seen, although the intestine was inspected from rectum to stomach. On the 8th day there was a further severe episode of bleeding, and the haemoglobin fell to 38%, and on the 9th day the child died.

An Autopsy was performed and the following part of the report is relevant: —"The G. I. tract was removed from the diaphragm to the rectum. On gross examination from the exterior there was nothing unusual. However, on opening the tract throughout the length there were two ulcers situated within the first portion of the duodenum. The one measuring 1.5 cms. in diameter, and the other 0.5 cms. in diameter. The larger ulcer was situated on the posterior wall of the duodenum. The smaller ulcer was on the anterior wall. The ulcer

Social Work In The Children's Hospital

Mrs. Freda E. Vickery
Director,
Social Service Department,
The Children's Hospital

WHAT does social work offer to the medical program of a Children's Hospital? First of all, let me tell you about two children who were referred for social service.

The first child we will call Betty. Betty was twelve, and had been hospitalized with a disabling condition which responded to cortisone. Eventually it was felt that she could go home, if her mother could bring her in to Out-Patient Clinic three times a week for physio-therapy and re-check. The mother agreed to do this.

Now, in a busy hospital program, people do not always stop to think of the problems that some of our recommendations might hold for a family. At the same time, a mother may agree to meet commitments that are not realistic. Then, when she finds that she cannot keep them, she feels guilty and upset, and builds up resentment against the ones who seem to be making unfair demands on her.

Betty's mother managed to keep her first few appointments, becoming more and more upset. Then she began missing them, and would be even more resentful when this was pointed out to her. The Clinic staff felt that she was being difficult and unco-operative, and their air of disapproval only increased her apparent stubborness. The doctor noted that all was not well, and asked the social worker to explore the home situation and perhaps learn what was troubling the mother.

The social worker visited the home and found that Betty was spending more and more time in bed, and that the mother and child were unhappy, snapping at each other, and in tears much of the time. The mother poured out her troubles and her anger against the hospital personnel who seemed to her to be unfeeling and critical because she missed appointments. She talked of her worries about Betty's illness, and her own feelings that she just could not cope with things as they were going now.

It was a story of a broken home. The mother had ably supported her little girl for six years, and had given her extra advantages such as music lessons, dancing lessons, etc. Betty was a bright, ambitious child, always well up in her classes. Now this disabling and painful illness had come, and the mother's hopes and dreams were threatened. Betty was unhappy over getting behind her classmates as well as over causing her mother so much expense and worry.

The mother had a small business which needed her time and attention. Coming to clinic three times a week was impossible, not only in time away from work, but in financing a long and costly taxi bill across the toll-bridge, approximately $7.00 each day. The cortisone alone cost her $12.00 to $16.00 a week As the tensions piled up, she and Betty re-acted to each other, became overly sensitive, and they could hardly get through a morning without tears and trouble between them. What should have been a positive convalescent program had become a strained and damaging experience in which Betty was not making progress.

The mother responded well to an opportunity to talk about her worries. Once she had all her problems out in the open, she was able to think about them more clearly, and to make plans that might ease some of the worst pressure. We explored the things that had to be done, which of these she could do, and which of these she could do with some help. Taking help is not easy for most people. It can be a hurtful experience for those who have always made their own way, if it takes from them their sense of self-esteem and self-respect. We try to help people accept help in a constructive way, so that they may be assisted over the present difficulty and returned to independence as soon as possible.

Betty's mother was able to accept help with some of her financial problems. She agreed to take help with the taxi costs, which we obtained through a local service club as a special project. This alone came to approximately $100.00 for the month we needed it. The mother chose to go on providing the cortisone as long as she could do so. These were the two biggest issues.

Through the Junior Red Cross we obtained loan of a wheel chair, and later on, of crutches. The mother needed another kind of help to face and accept the idea of a wheel chair for her daughter. It was a major effort for her to take her out in it the first few times. Through continued support, she was soon taking her for little outings on her "good" days,—to Sunday School, birthday parties in the neighborhood, and similar activities to break the monotony.

As the pressures on the mother eased, she became more relaxed and cheerful with Betty, and Betty responded. From time to time other community resources were used. Arrangements were made to have the travelling physiotherapist give Betty her treatments at home. Later, when she was ready for it, a correspondence course enabled her to catch up in her school studies. The whole atmosphere of the home changed, and it was a satisfying day for all when Betty was able to walk into the Out-Patient Clinic without any aids, accompanied by a mother who was once more in control of her situation.

The second child we shall call Jimmy. He was a four-year old who had a thyroid deficiency, had not been seen by a doctor for two years, and who was not able to walk. In hospital he improved greatly, and was soon using the walker, and later, walking alone. It was felt that he could be discharged if medical recommendations could be carried out at home. These included giving him his pills regularly, and bringing him in for weekly check-ups.

Because of his condition at the time of admission, he was referred to social service for home study. Again we found a broken home, with the mother living with another man, and the father boarding himself and two children in a home with an elderly lady who also had four of her own grandchildren there. The father was abusive to the children when drinking, which was most of the time. Some of the children had ringworm, impetigo, and all had pediculosis. The parents had separated before, and the history of beatings, drinking, and abuse did not seem to indicate a favorable outcome. The mother loved her children well enough, but she seemed mentally incapable of taking constructive steps in improving the situation. Discharge of our little patient could not be considered without safeguards.

The Children's Aid Society is the local agency set up under legislation to offer protection to children who are found to be in need of it. They were asked to give service on Jimmy's behalf. Their social worker collaborated with the hospital social worker toward better understanding of Jimmy's special needs, following discharge. Most agencies in this work feel that children should

be with their own parents wherever possible, and much of their work is directed toward prevention of family break-up. Jimmy's parents were given every opportunity to explore their difficulties, and to clarify what they really wanted to do about their marriage, and about Jimmy and his younger brother.

During this period Jimmy was discharged, and went through many ups and downs in the boarding home where his father took him. No satisfactory plan could be worked out with the parents, and it soon became evident that Jimmy was losing ground. The foster mother was not anxious to have him walking. He was less trouble when he was in a play pen. She did not feel responsible for keeping his pills on hand, or for seeing that he got them daily, or for bringing him in to Clinic appointments. The father did not worry about it either. Eventually, the child came in and the attending doctor felt that he should be re-admitted. This strengthened the case against these neglectful parents, and they were taken to Court where custody was removed from the parents and awarded to the Children's Aid Society. Jimmy was placed in an Institution where his medical program could be followed. Here he received encouragement in learning to walk and talk.

When he is ready for it, we hope he will be placed in a foster family that will give him loving acceptance, and better treatment than he had previously.

In Betty's case, the mother was a capable person who was quite able to carry on with minimum help. In Jimmy's case, the parents were quite unable to do so. In both cases, the child would have continued to fill a hospital bed again and again had it not been possible to plan other ways of meeting the medical needs.

Each case presents different problems, and each requires different handling. Perhaps a few brief statements of samples of referrals would indicate something of the range and variety of social problems for which the services of this department are requested.

A four-year old boy, admitted for lacerations of the scalp, following a tumble at home. He was found to be in filthy bodily condition, acting starved, and with four or five gangrenous toes which the mother admitted had been draining pus for some days. A home study here, included getting the other children examined for possible "frozen toes", assessing the mother's ability to budget properly, and to plan meals. Following discharge, referral was made to an agency that could offer follow-up supervision on behalf of these children.

A baby ready for discharge following pneumonia, second admission. The day was stormy, in mid-winter, and the resident noted that the mother was inadequately dressed, and suggested that she see the social worker before taking the baby home. It was learned that the father had arthritis, and therefore a poor work history, and was at present unemployed, with no Insurance due. They subsisted on a periodic relief order, plus an occasional coal order. The mother and four children slept in one bed, and the father and two more slept on the cot. The baby would be going to bed with the mother, for warmth. There were not enough blankets to keep warm, and their coal order did not permit keeping a fire on all night. The grocery order did not last from one week to the next. She was expecting to walk home with the child, not having any cash for bus tickets.

An infant whose parents had not shown much interest during his admission for hernia. It was referred to social service after the parents had been notified that he was ready for discharge for four consecutive days, with no result. This baby was eventually declared "abandoned" by the Court and custody given to the Children's Aid Society.

A boy of twelve admitted with severe headaches for which no physical cause could be found. The social worker was asked to explore the emotional tone of the home for causative factors.

A four-year old girl admitted with a temporary upset, found to be spastic. She could not sit or walk. Following complete physical assessment, it was referred to social service to arrange for the mother to come in to the Rehabilitation Centre with the child, to learn special exercises which she could give at home. A post-discharge program was set up under which child and mother will come in to the Centre each month for physio-therapy and instruction. Work with this family included arranging financial assistance, motivating the parents to change their former point of view regarding the child's possibilities, helping the mother plan for the other children of the family so that she could be free to come to the Rehabilitation Centre for her appointments, and supporting her in learning and giving the exercises when the child does not always feel like co-operating.

Referral of retarded children. Here we try to help the mothers accept the findings, but we also go into the little daily problems that seem so big to them. They sometimes want booklets on the subject of daily care, or information about special classes, about organizations for parents of such children, or about the Nova Scotia Training School at Truro which offers a specialized educational and training program for certain groups of mentally retarded children.

The primary function of a social service department in the Hospital is that of offering casework services on behalf of children who are ill or who have physical handicaps or long-term chronic conditions, and who are under medical care and treatment in the hospital. It is obvious that parent's problems must be dealt with frequently in order to meet the needs of the child. The activities of the social service department are directed towards assisting patients and their families in resolving their social and emotional problems so that they may make the best use of medical treatment.

Through interviews and discussions, the child or his parents are helped to bring out their problems, and the reasons for their existence. In some instances efforts are directed toward helping them understand their problems so that they may manage their own affairs with greater satisfaction. In other instances they are helped to accept assistance from other health and welfare agencies in the community.

Referrals to the social service department are ordinarily made by the physician who is directing the medical treatment, but other members of the hospital staff, such as the nurse, or the admitting office staff, may call upon social service on behalf of some patient. Sometimes a community agency refers a patient in whom they have an interest. In accepting any of these, the social worker confers first of all with the physician so that he is in touch with any plans made with, or on behalf of, the patient—while the patient is under his care.

To attempt to outline details of the methods used would be of little value here. Essentially, the method involves three major factors:

1. A direct relationship with the person served in which the latter is helped to view, as he is able, the salient features of the situation in which he finds himself, and in this process he is helped to find new perspective and new methods for using his own capacities.
2. Mobilization of appropriate resources in the environment for the use of the patient.

3. A continuous focus which relates the first two factors to the problem of illness and the patient's response to treatment.

In conclusion, I wish to point out that in spite of all the things we can do to help our families, there are things we cannot do because of limitations existing in the community itself. The most resourceful social worker cannot always help a mother with nine children move from miserable housing that is promoting sickness in the family, if the community cannot offer decent housing within her means. We cannot provide adequate diet for the children of a father who is temporarily out of work and without financial resources, in an area where relief appropriations are woefully inadequate. We cannot help with employment problems of handicapped people unless employment facilities exist. Nor can we urge the parents of a deaf child to begin his education early when there is no possibility of enrolling him in an already overburdened institution.

These are very real limitations. In meeting them we share with physicians, public health and welfare personnel, and all community workers interested in child care, the responsibility for doing something about it.

Within the hospital setting, the social service department is most effective when it has become an intimate part of the hospital program, to be used flexibly and with imagination in the total treatment plan for the patient.

Within the community, the hospital social worker is the voice of that hospital reaching out on behalf of sick children, intrepreting the broader implications of illness and its meaning for the child and his family, collaborating with existing child-caring services, and participating in projects designed to study and improve social conditions affecting children.

CANADIAN JOURNAL OF SURGERY

For some years the surgeons of Canada have felt the need for a national journal in which they could publish their own original work. Last year the leading surgical groups in Canada met and requested the Canadian Medical Association to undertake the publishing of a quarterly *Canadian Journal of Surgery*. The Association gladly agreed to co-operate in this, and we are happy to announce that the first issue of the *Canadian Journal of Surgery* will appear on October 1, 1957. The Editorial Board consists of the professors of surgery from the twelve Canadian medical schools, with Dr. R. M. Janes of Toronto, President of the Royal College of Physicians and Surgeons of Canada, as chairman of the Board. Publication will be under the general supervision of the Editor of the *Canadian Medical Association Journal*.

This Journal will carry original articles, case reports, editorials, and book reviews in the two official languages of Canada — French and English; original articles in English will carry a summary in French, and vice versa. The istorical section will feature the history of Canadian surgery. Subscription has been set at $10.00 for the first year.

Enquiries about the Journal should be addressed to
Canadian Journal of Surgery, C.M.A. House, 150 St. George Street,
Toronto 5, Ont.

SEVENTH ANNUAL MEETING
CANADIAN PUBLIC HEALTH ASSOCIATION
ATLANTIC BRANCH

CORNWALLIS INN, KENTVILLE, NOVA SCOTIA
November 6, 7 and 8, 1957

CONVENTION INFORMATION

Registration and Information Service will be at Convention Headquarters, the Cornwallis Inn, Kentville, and will be open Tuesday evening, November 5, 1957, from 8:00 to 10:00 p.m.

PROGRAMME

Tuesday, November 5, 1957

8.00 p.m. Meeting of the Executive.

Wednesday, November 6, 1957.

8.30 a.m. Registration.

9.30 a.m. Address of Welcome—Samuel Marcus, M.D.

9.40 a.m. "Industrial Nursing and Public Health."
Mrs. Greta Scott, R.N., Senior Nurse, Medical Centre, Mersey Paper Co. Ltd., Liverpool.

10.15 a.m. "Pathology of Pneumonias in Infancy."
W. A. Taylor, M.D., Ch.B., Professor of Pathology, Dalhousie University.

11.00 a.m. Recess—Coffee.

11.20 a.m. "Recent Developments in Cancer Research."
Ian MacKenzie, M.D., M.B.E., F.R.C.S., Professor of Surgery, Dalhousie University.
General Session: Chairman, J. C. Wickwire, M.D.

2.00 p.m. "Heart Disease As a Public Health Problem."
R. C. Dickson, O.B.E., M.D., F.R.C.P. (C), F.A.C.P., Professor of Medicine, Dalhousie University.

2.45 p.m. "Accident Prevention."
A. L. Murphy, M.D., F.A.C.S., Assistant Professor of Surgery, Dalhousie University.

3.15 p.m. Panel on "Behaviour Problems in Children."
Moderator: Clyde Marshall, M.D.
F. A. Dunsworth, M.D., Associate Professor of Psychiatry, Dalhousie University.
Henry Ross, M.D., Associate Professor of Paediatrics, Dalhousie University.
Miss Marjorie A. Cook, M.A., Director of Special Services, Special Services Department, Board of School Commissioners, Halifax.

6.45 p.m. Reception, Cornwallis Room.

7.30 p.m. Annual Dinner, Ball Room.
Courtesy, the Department of Public Health of Nova Scotia.
Speaker: Hon. R. A. Donahoe, Minister of Public Health and Welfare, Attorney General, Province of Nova Scotia.

10.00 p.m.-12.00 p.m. Dance: Cornwallis Room.

Thursday. November 7, 1957.

General Session: Chairman, R. C. Zinck, M.D.

9.00 a.m. Business.

9.45 a.m. "Industrial Medicine."
F. Dean Kemper, M.D., Regional Physician, Imperial Oil Limited.

10.15 a.m. "Refuse Disposal."
Frank Graham, C.S.I.(C), Chief Sanitary Inspector, City of Halifax.
George Leahy, C.S.I. (C), Sanitary Inspector, N. S. Department of Public Health.

10.45 a.m. Recess—Coffee.

11.00 a.m. "Vital Statistics in Nova Scotia."
H. E. Naugler, Asst. Deputy Registrar General, Province of Nova Scotia.

11.30 a.m. "Trends in Treatment—A Review of the National Health Picture."
Charles Roberts, M.D., Principal Medical Officer, Mental Health, Department of National Health and Welfare.
Afternoon Session: Chairman, Miss Phyllis Lyttle, R.N.

2.00 p.m. Symposium on "School Health."
Moderator: Miss Frances Lytle, R.N., Director of Nursing Education, Victoria General Hospital.
"Physical Fitness"—Hugh Noble, B.Sc. (Ph.Ed.), Director of Physical Fitness Branch, N. S. Department of Education.
"Nutrition"—Miss Hazel Roland, B.Sc., Director of Nutrition Division, N. S. Department of Public Health.
"Role of the Nurse"—Mrs. Nellie Crowe, R.N., School Nurse, Truro.
"Role of the Physician"—A. S. Arneil, M.D., Director of Maternal and Child Health, City of Halifax.

4.00 p.m. Afternoon Tea at the Nova Scotia Sanatorium.
Host: Hon. R. A. Donahoe, Minister of Public Health, and Mrs. Donahoe.
Evening Session: Section on Diseases of the Chest sponsored by the Medical Section, Nova Scotia Tuberculosis Association.
Chairman: W. I. Bent, M.D., D.P.H.

7.00 p.m. "Outbreak of Tuberculosis in a Public School." V. K. Rideout, M.D., D.P.H.. Divisional Medical Health Officer, N. S. Department of Public Health, Yarmouth.

7.30 p.m. "Reactions to Antimicrobials." D. S. Robb, M.D., Medical Superintendent, Roseway Hospital, Shelburne.

8.00 p.m. "Cystic Disease of the Lung." H. Holden, M.D., F.C.C.P., J. J. Quinlan, M.D. F.C.C.P., Nova Scotia Sanatorium, Kentville.

8.30 p.m. "The Fundamental Aspects of Antibiotic Medication" G. D. Denton, M.D., Wolfville.

9.00 p.m. Meeting of Medical Section, Nova Scotia Tuberculosis Association.

Friday, November 8, 1957.

General Session: Chairman, J. E. Hiltz, M.D., D.P.H.

9.15 a.m. "Maternal and Infant Mortality and Morbidity.—Our Present Status in Nova Scotia." H. B. Colford, M.D., D.P.H., Director of Child and Maternal Health and Communicable Disease Control, N. S. Department of Public Health.

9.45 a.m. "Laboratory Findings in Infantile Diarrhoeas." D. J. Mackenzie, M.D., Director of Laboratories, Pathological Institute.

10.15 a.m. "Newer Trends in Nursing Services." Miss Electa MacLennan, R.N., M.A.. Director of School of Nursing, Dalhousie University.

10.45 a.m. Recess—Coffee.

11.00 a.m. "Food Inspection." A. Hollett, Regional Director, Food and Drug Directorate, Department of National Health and Welfare.

11.30 a.m. "Status of Fluoridation in Eastern Canada." W. Gordon Dawson, D.D.S., D.D.P.H., Director, Division of Dental Services, N. S. Department of Public Health.

FOR RESERVATIONS PLEASE CONTACT THE MANAGER, CORNWALLIS INN, KENTVILLE.

Secretary's Page

The Annual Meeting 1957 has passed into history. It was a busy and enjoyable time. The regular meeting of the Executive Committee was held on Tuesday, August 27. The Annual Executive Committee meeting took place on August 28. Each session occupied a full day. The business sessions of the general meeting occupied a total of seven hours over the two days of August 29 and 30. The round table discussions on Medical Economics and Public Relations were well organized and well received—the audience and panels entering into well rounded out discussions. The two clinical papers presented by Doctor H. L. Richard of Edmonton and Doctor K. J. R. Wightman of Toronto were most instructive.

The social programme left nothing to be desired. The Programme Committee under the Chairmanship of Doctor D. E. Lewis (and the Ladies Committee chaired by Mrs. Lewis) had worked zealously and the results, enhanced by a kind and co-operative weatherman, were literally outstanding. Full advantage had been taken of the natural setting and beauty of the Digby Pines with the result that the Shore dinner and the President's reception, banquet and ball will long be remembered by all who had the pleasure of attending.

The C. M. A. Presidential team included Doctor M. A. R. Young of Edmonton, President of The C. M. A. and Mrs. Young, Doctor A. D. Kelly, General Secretary and Mrs. Kelly, Mr. Larry W. Holmes, Assistant Secretary, Public Relations and the visiting lecturers. The luncheon on Friday was addressed by Doctor Young, as President of The C. M. A.

There are many matters which have arisen relative to the organization of the annual meetings which have been brought to attention by a special Committee of the Executive. That committee is to continue during the present year and has been instructed to review these matters with the Branch Societies so that the views of each may be known.

Reports of Committees and Representatives

These were prepared in book form for the annual meeting. There are 67 pages with an index. Each member of the Executive Committee received a copy two weeks prior to the annual meeting and each member received a copy at the time of registration. The Executive Committee has directed that a copy be sent to the Secretary of each Branch Society. Any member who wishes to have a copy may have one by sending a request to the Executive Secretary. A summary of the minutes of the Executive meetings and the Annual Meeting will be published in the next issue of the Bulletin.

Retirement Savings Plan

Doctor A. D. Kelly, General Secretary, C. M. A., reported on this during the time that the report of the Committee on Medical Economics was being considered by annual meeting. The C. M. A. plan has been finalized and it is expected that the complete information will be sent to each member of The C. M. A. during September. This will be a most important brochure and each member should watch for its arrival in the mail and study it in detail. It is understood that deductions from 1957 Income Tax relative to this plan will be permitted up to February, 1958.

"Asiatic Flu"

Considerable information has come to hand relative to this disease. A summary is as follows:

(1) The aetiological factor is a virus.

(2) There is little doubt that it will be pandemic and that Nova Scotia has to expect an epidemic.

(3) The attack rate is high, but the mortality rate is fortunately low, at least up to the present.

(4) A specific vaccine will be available and it is expected that Nova Scotia will receive some 20,000 doses toward the end of September, with further amounts of the vaccine as they become available.

(5) The Department of Health has set up an advisory committee which has drawn up a priority listing designed to distribute the limited supplies of vaccine to the best advantage.

(6) It is not known at present what amount of vaccine will be available through commercial channels.

(7) The usual preventive measures of avoiding crowds and avoiding fatigue are considered to be practical steps in prevention.

(8) Any inquiries or requests for information should be directed to H. B. Colford, M.D., Director of Communicable Control.

C. J. W. B.

Personal Interest Notes

Dr. C. B. Stewart, Dalhousie Dean of Medicine, has announced that a Schering Fellowship Award for graduate study in the Faculty of Medicine at Dalhousie University, Halifax, N. S., was granted to Miss Evelyn Teresa Bennet of Halifax. This award is made available to a Canadian university annually for the furtherance of graduate medical research studies.

Miss Evelyn Bennet was born in Glace Bay, N. S. She graduated from St. Francis Xavier University in 1953, with a B.Sc. in Biology. The following year she was awarded the degree of B.A. in English literature. She obtained her M.Sc. degree from Dalhousie in 1957 for her research in fatty substances. Miss Bennet is planning further study and research which will lead to a Ph.D. degree. The Schering Fellowship amounts to $4,000 for the support of Miss Bennet's studies in Steroid Chemistry.

During the coming year Miss Bennet will be working under the direction of Dr. W. I. Morse, Associate Professor of Medicine (Research) at Dalhousie University. A formal presentation of the Fellowship Certificate will be made to Miss Bennet at a special ceremony in the near future.

The State University of New York, in Brooklyn, N. Y., has appointed Dr. Gordon R. Hennigar as Professor of Pathology, Associate Director of Laboratories and Pathologist in Chief of the Kings County Hospital. Dr. Hennigar graduated from Dalhousie University in 1945 and on graduation carried out post-graduate work at the John Hopkins School of Medicine. For the past seven years he has been Associate Professor of Pathology at the Medical College of Virginia, Richmond, Virginia.