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# Slipping of the Upper Femoral Epiphysis

B. F. Miller, M.D., F.R.C.S., (Edin. and C)

**T**HIS condition, also known as Epiphyseal or Adolescent Coxa Vara, is of fairly common occurrence, and is most often seen in children between the ages of 10 and 15 years. It is more common in boys, and the greatest number of cases are seen in those children whose body-build is suggestive of an endocrine adenopathy of the Fröhlich type.

Howorth states that this condition was known to that great French military surgeon Paré (1572), who said, "The epiphysis of the head of the femur sometimes separates in such a way that the surgeon is misled, thinking there is a dislocation."

There was no striking advance in the clinical understanding of the condition until the discovery of the X-ray around the turn of the century, brought about new interest in the diagnosis and pathology of the slipping of the head of the femur, which usually occurred without serious trauma.

In 1926, Key wrote a paper in which he reviewed the literature and included 24 new cases from the wards of the Massachusetts General Hospital. This remains the classic paper in the American literature on the subject.

In 1938, P. D. Wilson wrote a significant paper advocating treatment of the condition by internal fixation, if the case were recognized before serious slipping took place.

## **PATHOLOGY**

The fundamental lesion is a separation of the capital femoral epiphysis from the femoral neck, the cartilaginous plate remaining with the epiphysis. The displacement is typically downwards and backwards, leading to a coxa vara and also, but less important, to an anteversion of the femoral neck. As the head slips, the gap between it and the neck rapidly fills with callus. This is well seen at open operation, when division by an osteotome is necessary to replace the slipped head.

Trauma is often absent or trivial, and the slipping may be bilateral in 15% of cases. It used to be thought that bilateral involvement occurred in a much higher percentage, and perhaps it is less common today with earlier diagnosis and consequent protection of the other hip, although the writer observed slipping in the second hip when the one first involved was being treated by traction in hospital.

It seems that a softening takes place in the region of the epiphysis which may precede the slipping by a considerable period. This pre-slipping stage can be recognized on X-ray by a widening and irregularity of the epiphyseal junction with the changes involving the juxta-epiphyseal region of the neck.

The balance between the growth hormone of the pituitary and the sex hormone determines normal maturation of growth, and it is postulated that because the lesion is common in children of the adiposo-genitalia type, that either an excess of the growth hormone, or under-production of the sex hormone, leads to the softening of the normal union and a decrease in the shearing strength of the epiphysis.

In any event, there is no evidence in favour of an hereditary origin, no evidence of dietary or vitamin deficiency, and no infection has been demonstrated on culture.

## CLINICAL PICTURE

When a child about 12 years of age is overweight, with the distribution of fat about the pelvis which is characteristic of Frölich's syndrome, and when he has knock-knees, weak arches, walks awkwardly with the legs in external rotation, the clinician should keep slipped epiphysis in mind, and take seriously even trivial complaints of pain in the knee or hip, as this is the commonest disease of the hip around this age.

Because the results of treatment are so good in the early case, and can be so disastrous in the late case, early diagnosis and treatment is imperative.

## DIAGNOSIS

Slipping results in pain spasm and limp. On examination, flexion of the hip causes the limb to go into external rotation and abduction, and straight flexion is not possible.

No laboratory tests are of any value in diagnosis.

X-rays can definitely establish the diagnosis, but there is a *pons asinorum* here. Lateral views **MUST** be taken, as the condition can be easily overlooked in the standard A.P. views.

Roentgenograms also allow us to estimate the stage of the disease and the degree of slipping so that we have a good base-line on which to plan our treatment.

## TREATMENT

Best results are obtained when the disease is recognized early and slipping prevented.

Good results are obtained when slipping is minimal to moderate, and further slipping is prevented by internal fixation with a Smith-Petersen nail, or if bone pegging is done, no attempt being made to reduce the deformity.

Bad results will likely follow separation of the epiphysis from the neck, whether by strong traction, manipulation, or open operation.

Healing of the epiphysis will usually be complete after pinning or pegging in 3-6 months. Movement of the hip is desirable during this period, but weight-bearing is not allowed. Pinning may be easier with a Smith-Petersen pin, especially made for children.

In cases with gross slipping, occasionally open reduction or osteotomy of the femoral neck may be undertaken as the resultant stiffness may be preferable to the present deformity.

Finally, a sub-trochanteric osteotomy in the case with marked slipping may improve function, minimize the shortening, and delay the onset of osteoarthritis.

## Pectus Excavatum (Funnel Chest)

John W. Merritt, M.D.

**P**ECTUS Excavatum is a congenital deformity which is correctable by surgery.

Our records show a moderately large number of cases of funnel chest have been operated upon and corrected. The age of the youngest was seven months and the oldest thirty-two years. There has been one recurrence requiring subsequent re-operation. No important complications have occurred and there has been no prolonged morbidity. There has been no mortality.

Paediatricians and Practitioners are becoming more familiar with the condition, which can be diagnosed by inspection, and are recognizing the indications for operative correction of this relatively common deformity. The feeling of improved vigor expressed by older patients and the evidence of increased activity seen by the parents of the younger patients is a usual comment in the post-operative period.

The depression of the lower part of the sternum carries with it the third to the ninth costal cartilages in varying degree. The deepest part of the funnel or depression is at the attachment of the lower end of the sternum with the Xiphoid. This results in a decrease of the antero-posterior diameter of the chest with a compensating increase in the lateral chest diameter. The deformity is progressive and increases, and becomes associated with a dorsal kyphoses flattening of the chest, and the appearance of the head being thrust forward. There is paradoxical breathing, indrawing of the lower end of the sternum on inspiration, expansion of the lateral chest and protrusion of the abdomen.

The condition is congenital being present at birth. It is also developmental in that it increases in extent and severity with growth. There may be a hereditary factor. We have seen the condition present in parent and child and in more than one member of a family. In one family; the father and a child each had a pectus excavatum, another child had a congenital heart and a third child had congenital pyloric stenosis. There is no definitely known cause. A shortened central tendon of the diaphragm is considered to be a causative factor. The incurving of the costal cartilages is also considered to be an important factor and this incurving increases and aggravates the deformity as the individual grows. These two factors show why in nearly all cases the condition is progressive.

The main complaints are (1) Physical and (2) Psychological and the physical complaints may be subdivided into (a) cosmetic or orthopaedic and (b) physiological. The depression deepens and becomes more obvious with increasing size of the child and is cause for comment by companions and playmates. This is one reason why we prefer to operate on these cases in the pre-school age group. In the female with the development of the breasts the appearance of the depression is markedly exaggerated. The physical complaints are mainly due to pressure upon and displacement of the heart causing circulatory disturbances. These disturbances become more severe as the deformity increases and the lower end of the sternum approximates the vertebral column. A loud systolic murmur and cardiac arrhythmias are common findings. To a lesser degree pressure on the lower lobes of the lungs increases the tendency to pulmonary disturbances and infections, such as bronchitis, recurrent attacks of

pneumonitis and sometimes bronchiectasis. The liver and stomach are also occasionally affected by the same pressure mechanism. Shortness of breath and easily increasing fatigue are the two most common symptoms.

The question is frequently asked: "What is the optimum age for operation?" The operation can be performed at any age. The younger patients will get complete physiological relief and will probably have complete correction of the deformity with a normally formed chest. Older patients will be relieved of physical complaints and the deformity in the fully developed and rigid thorax will probably be improved 75 to 80% or more. Operation will give satisfactory correction at any age. The pre-school age group will get maximum improvement.

As stated above the condition is one of progressively increasing deformity. There are a few cases in which the depression is minimal and the indrawing of the sternum almost negligible. These cases following a period of observation may show no tendency to increase and do not require operation. The great majority with indrawing of the lower sternum on inspiration, and incurving of the costal cartilages will show increasing deformity. These can be improved and corrected by operation restoring the thoracic cage to a normal contour and improving the circulatory and pulmonary physiology.

Correction of the deformity by operation is the treatment of choice. A small percentage of cases with minimal deformity which shows no evidence of becoming more severe will not require operation.

At operation the deformed portion of the cartilages must be removed, the attachment of the diaphragmatic central tendon to the sternum is cut away, the sternum is placed in normal or even over-corrected anatomical position and usually some temporary fixation will help hold the desired position of the parts until natural fixation takes place. The anterior chest wall is somewhat weakened for a few weeks. After two or three months the chest wall is normally solid. Patients are allowed out of bed early in the post-operative period and usually leave hospital within two weeks. Maintenance of erect posture is emphasized. Recurrences are usually due to failure to co-operate in maintaining correct posture during the early convalescent period.

More than one hundred cases have been operated upon in the period of twelve years. We have been well satisfied with the results of therapy. Parents of younger children and older patients are all enthusiastic about the improved feeling of physical well-being and increased vigor, which becomes apparent early in the post-operative period. The psychological effect is also very satisfactory.

## Wringer Injuries

W. E. Pollett, M.D., C.M., FRCS (Edin. & C.)

A study of the case reports of wringer injuries at the Halifax Children's Hospital suggests that in many cases the difference between a minor injury and a serious one requiring prolonged hospital treatment depends on whether primary treatment is adequate or not so adequate. The appearance of the injured part shortly after the accident can be most deceptive and it is easily understandable when the case history reads "The doctor was called immediately, the arm examined and X-rayed and the mother assured that there was no fracture." This same case may appear in hospital a week later with a large area of skin necrotic and infected and requiring perhaps six weeks hospitalization for treatment which includes skin grafting.

In our series, the commonest age at which children put their fingers between the rollers of the wringer attached to an electric washing machine is from 2 to 4. Often the mother loses her head and instead of pressing the safety release bar tries to pull the child's arm out through the revolving rollers. In the majority of cases seen, the brunt of the injury is taken in the antecubital fossa. Next in order of maximum damage is the axilla. In four cases I have seen in which the hand alone was damaged, two were adults and one was a boy of nine. One Halifax doctor had the unusual experience of being called to see a lady whose breast had been firmly caught in a wringer, an event which occasioned her not inconsiderable inconvenience.

Nearly all of our patients had been taken promptly to a doctor. Most were X-rayed and with the exception of a few minor fractures of the phalanges of the hand were reported negative for bony injury. Very commonly however the radiologist added "There is marked soft tissue swelling present" often in the elbow region. Examination of the arm shortly after the injury often revealed very little. One boy of nine who managed to pull his hand out while the rollers were in motion had skin denuded from the backs of all 4 fingers and the thenar eminence. Most had no laceration of consequence. Usually there was some bruising and ecchymotic discoloration in the antecubital region or in the axilla. Swelling of the involved part was often present but was usually not great.

Gross in his very excellent account of the condition points out how misleading the first examination may be. In this injury almost always the soft tissues, particularly skin and subcutaneous tissues, sustain damage which may be severe. Within hours blood and transudate may accumulate under the skin in very considerable amounts. Within 24 to 48 hours or less, skin which shortly after the accident appeared relatively healthy, can become obviously dying. Gross attributes the necrosis of the skin to it being raised from its bed by blood and fluid with rupture of the nutrient blood vessels. In the all important first 24 to 48 hours the death of the skin can, in the great majority of cases, be prevented by decompression by simple incision in the skin to evacuate the collected blood and fluid. This allows the skin to fall back on its bed and to remain viable.

How quickly this fluid can accumulate is illustrated in the case of a boy of 3 seen by me a few weeks ago. Examination one hour after the injury showed a small fluctuant area of about 3 square inches in the antecubital fossa with the skin raised and discoloured. At operation 3 hours later, the area of fluctuation

measured about 12 square inches and when incised a very large placenta like clot was expressed. Multiple incisions were made, two rubber dam drains inserted and brought out through parallel openings. The child required to be in hospital only four days and healed without any loss of skin.

In order not to give an erroneous impression it must be pointed out that less than half the cases of wringer injury require surgical treatment. What is all important however is to select those cases which do require surgery and to do so within 48 hours. It is during this period that skin which may be dying can be saved. In order to do this it is necessary to examine the arm every 12 hours after injury. If examination shows subcutaneous collection of clot and fluid, usually with diffuse ecchymosis and discolouration of the skin, incision into and evacuation of the collection should be carried out promptly.

An adequate method of dealing with these injuries from the beginning might be summarized as follows:

First, unless the child can be examined at home or office every 12 hours, it is probably best to hospitalize all these patients. Routine X-ray is carried out but will probably be negative except for evidence of soft tissue swelling. The arm is then carefully cleansed with Cetavlon or Phisoderm or similar detergent. If abrasions are present jelonet is applied. Sterile gauze of the roller type is wrapped on from the fingers to the axilla. An elastic crepe bandage is then applied firmly over this to include the whole arm. The compression obtained will help to prevent fluid accumulation under the skin and will save a certain proportion of cases from surgery. Elevation of the arm is helpful. Every 12 hours the dressing is taken down and the arm carefully examined for fluctuation and discolouration. If after 48 hours there is no evidence of this, the child may be discharged from hospital and seen as necessary at the doctor's office. In more than half the cases this will be all that is necessary.

In those cases which require decompression a general anaesthetic is given. In the two adult cases mentioned a large discoloured fluctuant area over the back of the hand and wrist was apparent within an hour or two after injury. In these two cases only, I used local anaesthetic for incisions and expressed large placenta like clots. The skin then fell back on the underlying structures, drains were inserted, a pressure dressing was applied and healing without loss of skin took place within about 10 days.

In a typical case in a child where the involved area is in the antecubital fossa incisions about 1-1½ inches long are made in the axis of the arm. Three to four incisions at strategic sites down into the clot may be necessary and after it is evacuated the rubber dam drains can be inserted in one incision and out through a parallel one. After about 2 or 3 days the drain may be removed and on the fourth day the child may go home if the skin is healthy. Skin grafting should be very rarely necessary if the above simple method of dealing with these cases is carried out.

Many of the cases seen by us at the Children's Hospital were late ones for "cases" with large necrotic and infected areas on admission and required prolonged treatment. It was not unusual for several weeks to elapse before a clean granulating surface could be obtained with such measures as compresses, debridement and antibiotics. A split thickness graft was then taken from the thigh, applied to the affected area and the arm encased in a plaster cast for 7-10 days. On occasion where the axilla was involved a plaster shoulder spica was used with the arm abducted to 90 degrees and the elbow also at right angles. Although the elbow was the most commonly involved region, contracture requiring prolonged physiotherapy was not a problem of significance in our cases.

In conclusion the possibilities for ill in wringer injuries might be illustrated by one of the cases seen. The child was admitted two months after having her arm caught in a wringer to just above the elbow. Skin grafting had been done but had not been successful and on admission a large area of infected granulating surface was present. Infection had spread to the radius and ulna and osteomyelitis had resulted in pathological fractures of both bones with considerable space between the ends of the fragments. Septicaemia developed but was brought under control by antibiotics. After the osteomyelitis appeared to be controlled, a bone grafting operation was done but because of residual infection was not successful. The graft eventually disappeared and after nearly 1½ years from the time of injury there was non union with gaps between the fragments. Another open operation was done and Rush pins inserted into both radius and ulna. This was followed by union of the radius and after 6 months the pin in this bone was removed. One year after the final operation the radius was completely healed and the ulna uniting. Altogether nearly 3 years of treatment was required of which nearly 10 months was spent in hospital. When we consider that with bad luck such an unfortunate sequence of events might occur, we can only conclude that these seemingly minor injuries merit considerable respect.

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### Treatment of Varicose Leg Ulcers With Fresh Placental Dressings\*

The use of fresh human placenta in the management of war wounds suggested the possibility of its use as a local application in the treatment of various chronic leg ulcers. Nineteen ambulatory patients with 30 leg ulcers were treated with placental dressings and the results are summarized.

The cotyledinous portion of the placenta was stripped from the membranous portion, placed between layers of gauze, and cut into cubes. The partially dried cubes were applied to the cleaned ulcer area one per week.

Sixteen of 22 varicose ulcers were obliterated in seven weeks. Eighty per cent of this series treated previously had acquired much longer periods for control of their ulceration. The placental tissue seemed to stimulate clean granulations, and migration of epithelium from adjacent areas once the crater had filled in. Possible modes of action are discussed.



## Bleeding From The Anus, In Children

J. H. Charman, M.D., C.M., F.R.C.S. (C)

**R**ECTAL bleeding is a common sign in infants and children. In most cases, it arises from simple anal fissures, ulcers or erosions. However not uncommonly, its source may be from pathology of a more serious nature. One must, therefore, guard against prematurely minimizing the seriousness of this complaint in an effort to calm an over anxious mother.

In several reported series of cases a wide variation in incidence of etiological factors is noted. Thus, in a series of 228 cases reported by Baffes and Potts,<sup>1</sup> in 26% the bleeding was due to intersusception, enterocolitis accounted for 15% anal fissures 11%, Meckel's Diverticulum 10%, colonic and rectal polyps 7%. These figures, obviously are based on hospital practice and present an entirely different picture from the incidence in everyday practice, where, by far the most common cause is anal fissure. Other common causes are rectal or colonic polyps, enterocolitis, Meckel's Diverticulum, intersusception, and anal prolapse. Among less common conditions producing anal bleeding in the infant and child are multiple polyposis, blood dyscrasias, peptic ulceration, reduplication of the bowel, and small bowel tumours.

The colour of the blood passed per rectum may aid in the differential diagnosis. Blood from the upper gastro-intestinal tract is usually black or tarry, although with massive haemorrhage from the small intestine it is possible to have the blood passed down so rapidly that it appears at the anus as bright red blood.

Blood from the anus or rectum is bright, and is usually streaked on the outside of the stool, since it has not been mixed with the stool by intestinal peristalsis. Blood from higher up in the colon is bright, but usually mixed with the stool.

The presence of associated symptoms and signs will aid in the diagnosis.

The more common causes of rectal bleeding will be considered in some detail.

### **Anal Fissures, Ulcers and Abrasions**

Anal Fissures are common in infants, and are usually produced by the passage of a hard stool which tears the mucosa. These fissures are usually of the acute superficial variety, and only rarely progress to the chronic indurated state.

These lesions of the anus are associated with severe pain or defecation, so that a reflex constipation develops which further aggravates the condition. The blood is bright red, and is streaked on the outside of the stool. The mother therefore states that her baby is constipated, cries with the passage of stool, and that a small quantity of bright blood is noted on the stool and diaper. Ulcers and abrasions from perianal eczema and scratching are a common cause of blood on the diaper.

The diagnosis is easily made from the history, and inspecting the anus by spreading the buttocks. The treatment of an acute fissure is medical, and consists of an oily laxative to soften the stool, the use of local anaesthetic agents in the rectum to abolish pain, followed by digital dilation to overcome the reflex sphincter spasm. The use of any cauterizing agent is to be avoided. Not only is it very painful to the child, but it frequently converts a superficial lesion into a deep fissure or ulcer requiring surgical excision.

The chronic anal fissure must be surgically excised.

### Enterocolitis

Under this heading are included the specific dysenteries, regional ileitis, ulcerative colitis and the epidemic diarrhoeas. In most of these diarrhoea is the prominent feature. The blood in the stool is usually scanty in amount. The diagnosis is made from the history, examination of the stool, X-ray examination, and sigmoidoscopic examination where indicated.

### Large Bowel Polyps

Large bowel polyps are said to be the most common cause of the passage of blood per rectum in children between the ages of 2 and 5 years. The blood is bright red, and usually on the outside of the stool; it may accompany or follow the stool. The passage of blood is usually intermittent.

Polyps in the rectum sometimes produce a feeling of incomplete evacuation of the bowel, resulting in prolonged straining and repeated attempts to pass stool. Sometimes when a long mucous pedicle is present, intermittent prolapse of the polyp through the anus may occur with straining. Polyps in the colon may produce intermittent crampy pain due to temporary partial intersusception.

In approximately 70% of cases rectal and colonic polyps are found within reach of the sigmoidoscope. Those found beyond the sigmoidoscope are demonstrated by double contrast enema. They may be single or multiple. It should be emphasized, that double contrast enema will frequently not demonstrate polyps in the rectum. Therefore, where the presence of a polyp is suspected, the order of investigation should be a sigmoidoscopic examination followed, if negative, by a double contrast enema. If the sigmoidoscopic examination is not done many rectal polyps will be missed.

Polyps within reach of the sigmoidoscope should be removed with a snare using the coagulating current. Those at a higher level must be removed by colotomy. Occasionally, bleeding will occur after the removal of high polyps through the sigmoidoscope and sometimes it is impossible to control this bleeding by means other than colotomy. It is therefore, wise to prepare patients as for bowel surgery before removing high polyps through the sigmoidoscope. On two occasions we have been forced to perform colotomy to control bleeding from the base of colonic polyps removed at the extreme limit of the sigmoidoscope.

Multiple polyposis is a familial condition where the large bowel is diffusely covered with polyps. Since malignancy eventually develops in 100% of cases, total colectomy is an absolute necessity. The familial character of this condition must be remembered and the other members of the family should be investigated. A rare type of familial multiple polyposis of the small bowel associated with the presence of brown melaena spots on the child's lips or oral mucosa is known as the Peutz-Jeghers syndrome.<sup>2</sup>

### Meckel's Diverticulum

The presence of a Meckel's Diverticulum is one of the more common causes of bleeding per rectum in the infant. The blood almost invariably comes from an ulcer at the neck of the sac or in the adjacent ileum, and is due to the action of hydrochloric acid secreted by aberrant gastric mucosa contained in the sac on the intestinal mucosa. The first symptom is frequently severe haemorrhage from the bowel unaccompanied by any pain. In 149 cases of Meckel's Diverticulum reported by Gross<sup>3</sup> massive haemorrhage was the chief symptom in 50 cases, and 80% of these cases were patients under two years of

age. The first stool may be tarry but subsequent stools are usually bright red. It should be remembered that X-ray studies practically never demonstrate a Meckel's Diverticulum.

Because gastric and pancreatic tissue is frequently found in reduplication of the bowel, bleeding per rectum may be a presenting symptom of this condition.

The treatment of Meckel's Diverticulum is surgical excision of the sac. Where marked blood loss has occurred, replacement should be carried out prior to surgery. Occasionally, emergency laparotomy will be necessary to control continuing haemorrhage.

### Intersusception

Blood loss is not a feature in this condition. Blood is passed per rectum mixed with mucous and is noted on the examining finger, as the typical red currant jelly. Its presence is a valuable diagnostic aid but may not be present for some hours after the onset of the condition. Characteristically, an apparently healthy male child under two years of age suddenly develops severe crampy abdominal pain and vomiting. Prostration and shock may rapidly develop. A doughy, sausage-shaped tumour may be palpable somewhere along the course of the colon. Immediate surgical intervention is necessary.

### Other Causes

Blood originating from the upper gastro-intestinal tract appears as tarry stools. It may arise from a cracked nipple, nose bleed, oesophageal varices or peptic ulceration.

The blood dyscrasias must be always considered while investigating bleeding from mucous surfaces. Not infrequently gastro-intestinal bleeding is the first symptom of a leukaemia.

### Summary

Anal fissure constitutes by far the commonest cause of bleeding per rectum in the infant and child. It has been shown that, although in the majority of cases the cause is simple, more serious pathology may be the source of the bleeding. The physician must constantly bear in mind the many causes of rectal bleeding. He will be aided in the differential diagnosis by the age of the patient the associated signs and symptoms, the character and amount of the blood which is passed.

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## Neonatal Intestinal Obstruction

Edwin F. Ross, M.D., R.R.C.S., (C)

**O**BSTRUCTION of the intestinal tract in the newborn may be produced by a variety of abnormalities of the following types: Congenital atresia or stenosis of small intestine, rectum and anus, mal rotation of the intestines, duplications of the alimentary tract, meconium ileus, Meckel's diverticulum and annular pancreas. The most common of these abnormalities is congenital atresia and stenosis although they all produce acute intestinal obstruction which must be corrected in order to save a frequently otherwise healthy infant. As paediatrics and paediatric surgery have increased their understanding of the treatment of these lesions an increasing number of babies has been salvaged in the past twenty-five years. For example, the Boston Children's Hospital reported a mortality of 87% in patients with intestinal atresia prior to 1940; between 1940 and 1952 it dropped to 47% and is being steadily lowered.

Stenosis presents a parallel but less severe picture than atresia and can often be removed from the group requiring urgent treatment. *Atresia* may occur in the duodenum, jejunum, ileum, colon, rectum and anus (the latter two being a particular group which should be more easily recognized and treated). Atresia of the duodenum may occur in any part but most commonly is distal to the bile papilla; it may be found in any part of the jejunum or ileum, it is rare in the colon. Early diagnosis is essential in the effective treatment of these infants and nursing and interne staffs should be reminded of their importance in this regard. A useful guide for all to remember is that no meconium stools in the first 18 hours is acceptable; none from 18 to 24 hours calls for particular watchfulness; none after 24 hours demands investigation. Vomiting, particularly bile stained, with abdominal distention demands flat X-ray studies which show abnormal gas patterns or may also suggest a meconium ileus if the typical granular or soapbubble appearance is present which can be diagnostic to the experienced radiologist. A modified barium enema will give important information as to the patency of the colon or the presence of a non-rotation with volvulus as a possible cause of the intestinal obstruction.

After co-operative assessment of each case by the paediatrician and the surgeon, they may then decide when laparotomy should be undertaken. In the absence of strangulation one is always amazed at the length of time in which these infants may remain in good condition with complete intestinal obstruction. These are cases which require urgent surgery but seldom should they be subjected to emergency laparotomy without cautious correction of dehydration by a polyethylene cutdown, a period of gastro-duodenal suction or any procedure which will make surgery safer.

Present day anaesthesia has contributed greatly to the safety of surgery in the neonatal group. The exploration can be done by either a paramedian or transverse incision—more commonly by the former approach. The cause of the obstruction will then be found, the striking feature being markedly distended bowel proximal to the obstruction and the tiny intestine, which has never functioned, distal to it. Whenever atresia is present it is essential to identify other possible sites, as multiple atresias or other abnormalities can occur. If a barium enema did not previously exclude other lesions, saline or air injected into the lumen not only determines this fact but also will distend the intestine and partially overcome the disparity in size between the proximal and distal loops. Duodenal atresia is managed by either duodeno-duodenostomy or gastro-enterostomy which is particularly adapted for obstructions of the

first part of the duodenum although it has also satisfactorily relieved obstructions of the second and third portions. In atresia of the jejunum and ileum although primary anastomosis is difficult it is the operation of choice; when distention is extreme a Miculicz operation may be the safest way to immediately decompress the intestine whose continuity should be restored as soon as possible by anastomosis to avoid undue fluid and electrolyte loss.

**Mal rotation of the intestines** can be simply dealt with by first untwisting the small bowel volvulus, then dividing the bands which obstruct the duodenum and thus allow the colon to lie on the left side of the abdomen.

**Duplications** of the intestinal tract associated with obstruction may require a resection with immediate anastomosis, a Miculicz resection, or an enteroanastomosis to produce a conduit for the fecal stream.

**Meconium ileus** as part of a muco-viscidosis or fibro-cystic disease of the pancreas is a rare cause of neonatal obstruction and best managed as Gross recommends, by a Miculicz resection.

The obstruction caused by a **Meckel's diverticulum** is similar to that seen in the adult and most frequently will be relieved by division of an obstructing band from it to the abdominal wall. It, of course, may be the cause of an intussusception in a slightly older age group and may give rise to haemorrhage and other complications as at any age.

**Annular pancreas** may cause duodenal obstruction by constriction and is best managed by a duodeno-jejunostomy to by-pass the obstruction. This is the rarest type of congenital anomaly to produce intestinal obstruction.

The post-operative treatment of these patients with intestinal obstruction requires the joint care of paediatrician and surgeon working together in the management of fluid balance and supervision of the return of intestinal function to allow oral feeding. The administration of parenteral fluids has to be carefully supervised particularly in quantity as the margin of safety is so narrow. I here would pay tribute to the internes and residents who become so deft at inserting small needles into the scalp or extremities of these tiny patients.

Anomalies of the anus and rectum are the commonest cause of large bowel obstruction in the new-born; they should be detected early with the help of the rectal thermometer and X-ray examination of the abdomen. The immediate aim of treatment is to relieve the intestinal obstruction which may be accomplished at the anus when only a thin membrane causes the block or by a colostomy when the blind end of the proximal bowel cannot easily be reached from the perineum; this maximum distance is considered to be 1.5 cm.

Another, not to be forgotten, cause of neonatal obstruction is **Hirschsprung's disease**. In these infants there is an accumulation of impacted faeces giving rise to a mechanical ileus which may be of the closed or open loop type. As a general rule, repeated enemas will relieve these ill infants and carry them on until after the age of one year when definitive surgery can be performed with safety. In the rare infant which cannot be so managed a colostomy is necessary as a preliminary and life saving measure.

### Summary

Although the mortality is relatively high many infants with neonatal intestinal obstruction can be successfully treated; each patient is an individual problem to be jointly managed by the paediatrician and surgeon; multiple anomalies or associated complications increase the mortality.

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## Recent Concepts In Burn Therapy

Charles H. Graham, M.D., C.M.  
Resident in Surgery

**P**RACTICALLY every physician is occasionally called upon to render care to a victim of thermal trauma. Several times each year some local disaster produces burns in large numbers. Increasing emphasis on Civil Defense planning indicates that burns in frightening numbers could occur at any time.

**Historical:** The historical treatment of burns is steeped in the wisdom and hypocrisy of antiquity. Greek and Roman physicians used soothing lotions, raw eggs, pickled olive brine and vinegar. Bleeding and greasy dressings were advocated in the 16th century. The groundwork for modern burn therapy was laid down by James Syme and his son-in-law Joseph Lister by their use of Antisepsis and pressure dressings. During more recent times a cavalcade of local measures have been tried and discarded for various reasons. Picric acid was followed by escharotics, tannic acid, silver nitrate, gentian violet and finally triple dye. During World War II impermeable Stannard envelopes were employed. The revival of exposure therapy is credited to Wallace of Edinburgh in 1947. Since that time this form of therapy has been extensively investigated and widely used and could be an effective technique in the handling of large numbers of casualties.

**Physiopathology:** A burn is a coagulated necrosis of variable depth producing capillary stasis and fluid exudation. The physiopathological effect may be (1) Local or (2) Systemic.

**Local:** A first degree burn is erythema of the skin but no vesication; a second degree burn is characterized by partial destruction of the skin with formation of blisters. A third degree burn completely destroys the skin and often muscle, bone and subjacent structures. There is a wide variation in the type of lesion produced. If the exposure time is long there may be marked edema of the dermis with necrosis of the epidermis. Prolonged exposure to higher temperature may produce a coagulative sheet of tissue with less edema.

Within 24-36 hours following injury there is a vast outpouring of plasma into the skin and subcutaneous tissue producing intense pain and hemoconcentration. Subsequently the lymphatics and capillaries become occluded. This is followed by re-establishment of the circulation in the subjacent areas and within seven days a gradual demarcation of dead from living tissue can be seen. Proteolytic enzymes in the acid wound separate the slough from the healthy tissue. Infection may enter at this time the previously sterile wound, and control may become a major problem. There is continuous loss of fluid and protein which in a severe case may equal the urinary nitrogen loss.

**Systemic Effects:** The systemic effect may be divided into three phases: (1) Shock; (2) Toxemia; (3) Period of Repair.

**Shock:** In the first 24-36 hours acute shock may run its course.

(a) As a result of the burn, there is seepage of plasma through the damaged capillaries causing diminished blood volume.

(b) The reduction of plasma volume without concomitant red cell loss results in hemoconcentration, elevated hematocrit reading and increased viscosity of blood, hence impeded blood flow.

(c) Diminished blood volume and increased viscosity result in lessened cardiac output.

(d) Capillary dilatation in the burn area causes pooling of blood and this together with (b) and (c) causes a decrease in blood pressure. Sodium enters the burned area in exchange for potassium. This produces hyperkalemia with increased renal excretion and subsequent potassium depletion. There is increased blood lactic acid and decreased carbon dioxide content of the plasma. This may be the result of burn damage. The manifestations of shock can always be expected in adults with burns involving 10-15% of the body surface and the patient with third degree burns involving more than 60% usually dies within 24 hours.

**Toxemia:** The second clinical phase continues from the beginning of the second 24 hours to the end of the second week. The patient is often drowsy, disorientated and sometimes comatosed. Secondary anemia is evident, temperature is usually elevated, the level of protein, sodium chloride and potassium tend to be low despite replacement. The non protein nitrogen in the plasma is elevated often to 80-100 mgs. %, the probable source being the tissue breakdown from the burned area. There is a tendency towards oliguria and sometimes complete renal shutdown. This is probably due to multiple factors involving renal vasoconstriction, anoxia and toxic factors acting on the renal parenchyma.

**Period of Repair:** During this stage the slough separates, second degree areas regenerate and skin grafting may be performed. This period of repair is prolonged by four major factors consisting of infection, negative nitrogen balance, anemia and vitamin loss.

**Therapy:** For practical purposes the therapy of burns may be divided into two major components, namely, (1) systemic treatment (2) the definitive care of the burn wound. The former is confined to the prevention and treatment of shock, local treatment of the burn wound and must include adequate electrolyte and colloid replacement, the administration of antibiotics in high dosages, early tracheotomy for laryngeal burns, the use of whole blood to combat late anemia and the maintenance of a high caloric, high protein and high vitamin diet. The definitive care of the burn wound requires careful planning and a series of staged surgical procedures which varies with the depth, extent and condition of the burn often requiring months to complete. The local treatment may be subdivided into two broad classifications: (1) compression dressings or (2) exposure therapy.

**Compression Dressings:** It has been said that some of the severest critics of compression dressings are those who have never mastered the details of applying them or who do not want to be bothered with such details. If using this method to areas of extensive burns one should only apply dressings after the shock is under control. The burns must be washed gently with soap and water, rinsed with Saline, using aseptic technique. They are then covered with a double layer of fine mesh gauze open enough to permit drainage of exudate but fine enough to prevent granulations from growing through it. This is then covered with a thin layer of plain gauze and abundant pads to distribute uniform pressure over eminences and depressions. These dressings are bound into a unit by large gauze rolls and finally by tightly wound external bandage. Such a dressing will minimize edema besides splinting the area at

rest in the position of function. The dressing should be changed at intervals of three to five days always using the strictest aseptic technique.

**Exposure Method:** Exposure therapy has worked well in the hands of many surgeons. Using this method, burned areas are left open to the air at room temperatures in order to allow a dry coagulum of tissue to form which will serve as a temporary mechanical protective barrier against invasion by pathogenic organisms. In partial thickness burns, healing can proceed beneath the slough and in full thickness burns local infections can be controlled for a period of about three weeks. After this period the margins of the wound contract and frequently suppuration will then develop with great rapidity so that the wound is not converted to an open one. The technique of exposure is simple and requires little preparation. A few reminders may be helpful. (1) Wound cleansing—gentle cleansing with a mild soap solution (cetevalon) or Saline solution is usually all that is necessary. It is rarely necessary to use general anaesthesia. A small dose of Demerol intravenously will usually control the pain. In addition Sparine or Nembutal given intravenously helps to allay excitement and permit rest. In young children Barbiturates will give adequate relief. (2) Following, the patient should be placed on laundered clean sheets. Sterile sheets are not necessary. (3) The room should preferably be kept cool—70°F to permit more rapid formation of coagulum. (4) The burned area should be kept out of contact with solid objects. Clothes over a cradle will suffice to cut down draft but heat should never be applied. (5) All parts of the body especially hands flexor surfaces should be placed in a satisfactory position to prevent edema formation and delay the formation of contractures.

**Advantages:** (1) It offers a feasible method of local management of mass burned casualties during the acute phase and is particularly valuable in flash burns. (2) Most patients are more comfortable without warm, restricting, often foul smelling bandages and are relieved of the apprehension and pain which accompany the change of such dressing. (3) It also effects great savings, of time, personnel and money by the elimination of tedious expensive dressings and sterile precautions. (4) If the lower extremities are not involved, the patient becomes ambulatory as soon as an eschar has formed and as a result is in a better state of appetite and nutrition. (5) The risk of hypostatic pneumonia is lessened in elderly individuals.

**Disadvantages:** (1) It is not suitable for all burns and its use is restricted to the acute period also (2) in full circumference burns involving the trunk or extremities the circulation may be constricted by the eschar. (3) Too, it is felt that fingers and hands are best treated by occlusive dressings due to rapid contracture formation. Other treatments consist of paraffin membranes removed every couple of days. These, however, require removal every day or two, the wounds cleansed and new membranes sprayed on. These membranes are often fragile and require around the clock experienced nursing care. The net result in most cases is not particularly beneficial and many are capable of harmful effects.

**PREVENTION AND TREATMENT OF BURN SHOCK:** As a life-saving procedure the treatment of burn shock takes precedence over treatment of the wound. The treatment of shock means the provision of an adequate amount of blood, fluid and electrolyte to replace what has been lost as a result of the burn. In 1952 Evans et al published a formula for the treatment of



the burned patient based on the weight of the patient and the extent of the burn. It must be remembered, however, that this formula does not establish an inflexible rule but rather provides a guide to the systemic therapy the patient will require. Other factors of more importance in establishing fluid requirements include (a) urinary output, and for this reason it is essential that an indwelling catheter be inserted as early as possible and the hourly urinary output accurately charted. Thirty to forty cc's of urine output per hour is usually adequate for the first 48 hours in the adult, with a correspondingly smaller output in children. (b) Any burn involving over 50 percent of the body surface should have fluids calculated on the basis of a 50 percent burn to prevent over treatment or 10,000 cc's in the first 24 hours is usually a maximum required in the adult. (c) Serial hematocrit determination provides valuable information in the first 48 hours. (d) It is a rule of thumb to give one half of the calculated first 24 hour requirement in the first eight hours, the remainder divided equally in the next 16 hours. For this purpose a cut-down should always be performed. (e) The development of pulmonary edema is an urgent indication for reduction in the rate of fluid administration. In computing the preparation of body surface burnt, A. B. Wallace of Edinburgh introduced the rule of nine which serves well for this purpose. This rule assigns a value of nine or multiples of nine as noted in the table.

Head.....	9%
Two upper extremities.....	18%
Two lower extremities.....	36%
Front of trunk.....	18%
Back of trunk.....	18%
Perineum.....	1%
Total.....	100%

**Fluid Therapy:** A simple and easily remembered modification of Evans' formula calls for 1 cc. colloid or electrolyte solution per pound of body weight for each percent of body surface burned. Using this formula 40% is colloid solution; the remainder is electrolyte. Hence a man weighing 160 pounds sustains 2nd. and 3rd. degree burns involving 40% of his body surface requires  $40 \times 160 \times 1 = 6400$  cc's of electrolyte and colloid in the first 24 hours.  $40\% \text{ colloid} \times 6400 = 2500$  cc. of colloid. It is considered that at least  $1/5$ th. of the colloid should be whole blood. This will leave  $2500 \text{ cc} - 500 \text{ cc} = 2000 \text{ cc}$  which may be given in the forms of 6% Dextran or plasma. The remaining  $6400 - 2500 = 3900 \text{ cc}$  will consist of electrolyte, for example, Glucose and Saline or one of the balanced salt solution. In addition one should give at least a bare minimum of the daily water requirement or 1500 cc.

**Formula:** 1 cc of colloid plus electrolyte / lb. of body wt./1% of body surface burned.  
 40% = colloid solution,  $1/5$  of which should be whole blood  
 60% = electrolyte solution  
 1500 cc daily requirement of water in form of Glucose and water or invert sugar.

In infants and children the colloid and electrolyte requirements are calculated as they are for the adult except that blood and Dextran requirements are determined in increments of 50—100 cc. Non electrolyte solutions are reduced in proportion to size, age and weight. In most cases after 48—72 hours the

patient is able to tolerate food by mouth and intravenous therapy can be reduced depending upon the oral intake. Careful serum electrolyte studies, hematocrit levels and urinary output determinations should be checked daily. A high protein, high caloric, high vitamin supplemented diet is necessary and should be encouraged as early as possible. Second degree burns of less than 10—15% of the body surface will not as a rule require intravenous therapy.

### GENERAL CONSIDERATIONS.

(1) Before transporting a severely burned patient it is necessary that shock therapy be first instituted. Shock may not appear until sometime later and can often be avoided by early therapy.

(2) Burned areas should be left uncovered and undisturbed except for a clean sheet covering the patient. Makeshift dressings take time, are painful and often a source of contamination.

(3) Burns of the face, neck or closed space victims often result in respiratory difficulty. The affect may be late and develop without warning. Tracheotomy in these cases should be done routinely.

(4) Tetanus is an ever present hazard and tetanus antitoxin in doses of 3000 international units should be given routinely after skin testing.

(5) The prevention of infection is important. Antibiotics administered early is advised. Penicillin is still the best and cheapest although sensitivity is becoming more frequent.

(6) Circumferential burns involving the trunk or extremities may restrict breathing or circulation. It may be necessary to produce longitudinal cuts through the depth of the burn to relieve this.

**DEFINITIVE WOUND THERAPY:** Until very recently it has remained the accepted form of treatment to allow patients with extensive third degree burns to remain swathed in bandages for 3-5 weeks to await spontaneous separation and slough of burn eschar so that staged split thickness grafting procedures could be performed. Attempts by workers using enzymatic and chemical agents to hasten burn tissue slough have not proved satisfactory. Early surgical debridement has long been advocated but the hazards of massive blood loss and shock accompany such procedures together with the dangers of destroying viable skin made this extremely dangerous. Mecker and Snyder reported a series of 13 cases treated by early debridement and grafting in burns involving 15—65% of the total body surface. The period of hospitalization was reduced in every case by more than 60% as compared with a group of 33 like patients in whom the burn slough was not excised. Using Brown's electric dermatome, debridement may be started on the 4th. or 5th. day following injury. First the wound is scrubbed with Phisoderm, Cetevalon or 1:1000 Zephiron solution. In areas of full thickness burn injury successive layers of nonviable skin is removed until the first evidence of bleeding is encountered. Each area debrided is then dressed using bacteriostatic pressure dressings consisting of a single layer of coarse mesh paraffin gauze. This is covered with multiple layers of heavy gauze in which is incorporated polyethylene tubes into which a solution of antibiotic solution may be injected. Any broad spectrum antibiotic is useful particularly Tetracycline hydrochloride 500 mgs. diluted with 500 cc's of normal Saline or a solution of equal parts of Neomycin, Bacetracin and Polymixin. This solution can be injected 3-4 times each day. The bandages are re-inforced with a circumferential pressure wrapping. Appropriate amounts of blood 5-10 cc's/lb. should be given during the operative

procedure and hemoglobin estimations performed at 4 and 8 hours after, as a guide in determining blood replacement. Subsequent debridement procedures may be carried out every 2-3 days depending upon the extent of burned surface. When the vascularity of the wound bed is assured split thickness grafting may be started. This can usually be accomplished within three weeks after injury. An attempt should be made to cover as much as possible of the granulating surface. Postage stamp grafts should not be employed if adequate amount of skin can be obtained. When donor sites are limited and confined to areas of bony prominences this may be overcome by a lysis of 250-500 cc's of Dextrose and water to elevate the skin and permit excision with the dermatome. Grafts are probably best sutured in place with fine dermalon and generously piecrusted to permit serum and blood drainage. Once again bacteriostatic dressings are applied. Occasionally postage stamp grafting may be necessary to conserve available skin. These can be placed 1 cm. apart. However, one must be willing to accept increased scar formation when using this method. In burns involving the chest, abdomen, buttocks and legs a padded Strykker bed is often the appliance of choice for frequent turning and prevention of the development of pneumonia. Plaster of Paris casts may too be utilized for immobilization.

#### **POST-OPERATIVE CARE:**

- (1) Remove dressings on 5th.-6th. day following surgery and apply light bacteriostatic dressings or begin tepid Saline baths.
- (2) Give high antibiotic coverage.
- (3) Whole blood transfusions should be given to maintain a hemoglobin level of 14 gms.
- (4) Diet should be of high caloric, high protein and high vitamin content, and if tube feeding is necessary protein preparations can be utilized.
- (5) Physiotherapy exercises should be started as early as possible in hospital and continued at home.
- (6) Procedures to relieve scar contractures should be delayed at least 6 months to permit stretching and softening of the eschar unless the function of the part is impaired.

**HYPOTHERMIA IN BURN THERAPY:** Recently much interest has developed in the use of hypothermia in the treatment of burns. Martin, Stone, Cooper et al in experiments with hypothermia using burned animals have been able to show that hypothermia decreases the B.M.R. and water, electrolytes and plasma accumulations are diminished in the burned area also. Renal function is increased. The part this will play in the future treatment of burned patients is difficult to predict.

#### **CASE REPORT:** Miss D. C. Age 7 years.

(1) This child was admitted to Halifax Children's Hospital on May 11, 1957 with second and third degree burns involving in part the neck, thorax, abdomen and anterior thighs. These burns were a result of playing with matches and lighter fluid a short time previously. It was calculated that 30% of the body surface was involved. Antishock and fluid therapy was immediately instituted and the child was treated by "open technique." May 24th., 1957 third degree burned areas were debrided with Brown's electric dermatome and bacteriostatic dressings applied. June 5th., 1957 areas were grafted, bacteriostatic

dressings applied with immobilization in plaster of Paris cast. Child was discharged June 20th., 1957 with all areas completely healed.

(2) Master G. R. Age 5 years.

This male child was admitted to hospital on April 17, 1957 with third degree burns involving both lower extremities to the mid thighs. It was calculated that 20% of the body surface was involved. Shock was treated and fluid therapy instituted. Exposure method used. On the 10th. day following admission burned areas were debrided and bacteriostatic dressings applied. Three weeks following admission split thickness graft applied to both extremities with bacteriostatic dressings and immobilization in plaster casts. Because of the development of infection in the right leg the initial graft sloughed. This was again grafted May 22, 1957 with good results. Child was discharged to parents on June 3, 1957 walking, to continue with physiotherapy at home.

### Summary:

- (1) A review of literature of most recent concepts in burn therapy is presented together with physiopathological features.
- (2) The advantages and disadvantages of open versus closed initial treatment is discussed.
- (3) The technique of dermatome debridement and early grafting is reviewed.
- (4) Short case histories of two patients on which the above therapy was used at the Halifax Children's Hospital are presented.

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# Portal Hypertension

F. G. Dolan, M.D., F.R.C.S. (C)

**P**ORTAL hypertension is an uncommon condition in childhood. However, it is one of the more important causes of bleeding from the gastrointestinal tract in childhood as well as in the adult.

In a review of this subject, it is to be noted that the liver has a peculiar circulation in that it has a double blood supply. The portal vein supplies 60% of hepatic blood flow; the hepatic artery supplies 40% at arterial pressures.

Portal pressures fall gradually from the mesenteric vein to the vena cava.

Small mesenteric vein.....	300 mm. water
Portal vein.....	78-300 mm. water
Liver sinusoids.....	39-52 mm. water
Hepatic veins.....	13-26 mm. water
Inferior vena cava.....	0-7 mm. water

The volume flow through the liver is 64 cc./100 gms. of liver per minute. Stimulation of the hepatic plexus increases the flow and small doses of adrenalin decrease the flow. Using small metal spheres, Prinzmetal<sup>1</sup> demonstrated the presence of arteriovenous fistula in the portal circulation. Blood may bypass the sinusoids completely. McIndoe<sup>2</sup> injected the portal vein and noted that in normal livers all the injected fluid could be recovered from the hepatic vein whereas in cirrhosis only 13% was so recovered. This indicated the presence of venovenal shunts as well.

It has long been thought that the functional unit of the liver was the hepatic lobule. This directed attention on the central vein and therefore on the outflow tract of the liver. It was a valuable asset in understanding passive venous congestion but lent little to the clarification of portal cirrhosis. The actual functional unit of the liver is the hepatic artery and its adjacent parenchyma. This involves a portion of several lobules. The problem in cirrhosis is one of obliteration of the hepatic artery producing widespread fibrosis.

It is presently hypothesised that in advanced cirrhosis cavernous types of arteriovenous communications are produced which channel blood in a direction from the hepatic artery to the portal vein. If arterial blood is shunted in this manner, not only will oxygenation of the liver cells be impaired, but arterial blood under high pressure will be delivered into the portal venous system. This hypothesis appears to be correct since the normal arterial-portal oxygen difference is 4-6 vol.% and in cirrhosis it is 1½—3 vol.%.

## CLASSIFICATION

### 1. Pre-hepatic

- (a) Congenital portal vein obstruction
- (b) Portal thrombosis . . . . . Traumatic
  - Infective
  - Associated with blood dyscrasias
- (c) Compression by . . . . . Hypernephroma
  - Carcinoma of the liver
  - Etc.
- (d) Invasion by carcinomas.

2. Hepatic
  - (a) Lennec's cirrhosis
  - (b) Biliary cirrhosis
  - (c) Sarcoidosis
  - (d) Post-infective hepatitis
  - (e) Tumours
3. Post-hepatic
  - (a) Budd-Chiari syndrome

## ETIOLOGY

The cause of the portal hypertension may be said due to vascular obstruction. It is much more difficult, and often impossible, to state the cause of the obstruction for, as yet, we cannot always determine the cause of cirrhosis. This is particularly true of children who have portal cirrhosis. Our problems are much simpler with the pre-hepatic group where the cause is commonly a failure of canalization of the portal vein, or thrombosis after canalization. These people have healthy or relatively healthy livers.

## PATHOLOGY

In the prehepatic group there is a portal vein occlusion either by complete thrombosis or by narrow webs. In the hepatic group the normal vascular pattern is progressively replaced by a constricted vascular bed. There is death of liver cells with irregular regeneration in nodules separated in a patternless manner by bands of condensed stroma and fibrosis. This produces, by means of vascular obstruction, a marked diminution of the total hepatic vascular bed. The posthepatic obstruction is due to stenosis or obliteration of the hepatic veins.

Obstruction of venous flow produces a portal hypertension. The method by which the hypertension is produced is still not solved. Three theories are presently considered.

1. Arteriovenous shunting (Herrick)<sup>3</sup>
2. Obstructive (McIndoe)<sup>2</sup>
3. Outflow hepatoportal obstruction (Madden)<sup>4</sup>

## CLINICAL FEATURES

**Evidence of Liver Damage**—Evidence of such damage is a history of weight loss, chronic indigestion and jaundice. There may be distension of the abdomen from the enlarged liver or ascites. A tendency to bruise easily suggests prothrombin deficiency as a result of liver damage. In more advanced cases, there is frank jaundice, liver palms, spider angiomas and fetor hepatis.

**Evidence of Hypersplenism**—Enlargement of the spleen associated with anaemia, leucopenia and thrombocytopenia suggests an increase in the splenic function of destruction of the cellular elements of the blood stream.

**Evidence of Vascular Obstruction**—The body attempts to control the increased portal pressure by opening portosystemic anastomoses in areas where these two circulations normally meet. These areas are:—by the esophageal veins to the azygos system, through the hemorrhoidal veins, by the para-umbilical veins, and by the veins of the posterior abdominal wall and diaphragm. The most common hallmark of portal hypertension is the presence of esophageal varices. These, along with fundal varices in the stomach, are the bleeding sites when hematemesis occurs. They are best seen in the barium swallow and

particularly on esophagosopic examination. The finding of haemorrhoids may indicate the presence of portal hypertension. Although usually not observed, there may be a caput medusa and distended veins of Retzius and Sappey. These are the products of the development of a collateral circulation at the fringes of the portosystemic system of veins.

### INDICATION FOR OPERATION

The treatment of portal cirrhosis is strictly a medical regimen. Surgical treatment is indicated only in the presence of portal hypertension. Its sole purpose is the prevention or arrest of hemorrhage. Operation does nothing to improve liver function and will not eliminate ascites. This led Isadore Ravdan<sup>5</sup> to state, "surgical assault, with its limited aim of preventing hemorrhage, is thus directed against an unpredictable episode in an ill-understood pathological process that complicates a disease of which the origins, more often than not, are obscure."

### CONTRA-INDICATIONS TO OPERATION

The contra-indications to operation must be rigidly accepted lest the mortality rate of this operation rise to unacceptable levels. The following render a case of this syndrome inoperable:

- (1) Portal cirrhosis without ascites or varices
- (2) Portal cirrhosis with ascites without varices
- (3) Portal cirrhosis with varices and ascites which does not respond to strict medical treatment
- (4) Portal cirrhosis with varices with—
  - (a) Plasma protein below 3 gms. %
  - (b) Cephalin-cholesterol at 3—4 plus
  - (c) Prothrombin time remaining long despite administration of vitamin K
- (5) BSP elevated more than 10% after 30 minutes
- (6) Elevated serum bilirubin

### TREATMENT

The treatment of portal hypertension must be considered not only from the point of view of preventing recurrent hemorrhage, but also the management of an acute hemorrhage.

Acute hemorrhage is best controlled by the use of a double balloon Sengstaken tube. This tube is inserted so that the smaller balloon is in the stomach and pulled up against the cardiac end. The longer balloon is in the esophagus and is inflated to 30 mm.Hg. The tube is left in place for at least 24 hrs. Failure of this method to control hemorrhage, or if the tube is not available, may demand more active methods to arrest the hemorrhage. It may be necessary to do a trans-esophageal ligation of the varices. This procedure is carried out through the left chest. The esophagus is opened and the varices are oversewn with a continuous suture. This procedure is effective in stopping bleeding from the esophagus, but will not control bleeding from the cardiac end of the stomach. Some surgeons recommend a transthoracic gastrotomy through the upper end of the stomach. This procedure interrupts the veins which pass up to the esophagus.

The prevention of further hemorrhage after one bout of bleeding is the problem of chronic portal hypertension. Methods of lowering portal pressure by an Eck fistula are the procedures presently used. This involves an anasto-

mosis between the portal and systemic circulations. In the adult, a portocaval shunt will allow the portal blood to pass to the vena cava. Thus, the portal system can never build up a pressure significantly higher than vena cava pressure. This is the most effective means of lowering portal pressures and preventing further hemorrhage. In the child who frequently has a cavernomatous transformation of the portal vein, a splenorenal shunt is usually used. A splenectomy is done and the splenic vein is anastomosed to the renal vein as an end to end anastomosis.

## COMPLICATIONS

These may be considered as immediate and delayed.

Immediate.....	(1)	Hemorrhage—(a) Cavernoma (b) Long prothrombin time
	(2)	Thrombosis of anastomosis
Delayed.....	(1)	Hepatic coma.
	(2)	Thrombosis of anastomosis.
	(3)	Thrombosis of portal radicles

## PROGNOSIS

The mortality rates of operation vary with the selection of cases. The range is from 10-25%. There is a significant number who will have recurrent bleeding. This recurrence of bleeding is most likely due to thrombosis of the anastomosis. Welsh<sup>6</sup> reports a rate of 20% and Julian<sup>7</sup> of 36%.

These patients have a second problem which makes the long term prognosis poor. This is the degree of liver damage and its rate of progression. Patek<sup>8</sup> reported that 68% of these patients with ascites were dead in one year; 74% of those jaundiced died in the first year; 70% with hematemesis died in one year.

## Summary

A brief description of the problem of surgical treatment of portal hypertension has been presented. Indications and contraindications have been considered and the surgical treatment was discussed.

1. Prenzmetal, M., Trinitz, E. M., Jr., Simkin, B., and Bergman, H. C.: Arteriovenous Anastomosis in Liver, Spleen and Lung. *Am. J. Physiol.* 152: 48: 1948.
2. McIndoe, A. H.: Vascular Lesions of Portal Cirrhosis. *Arch. Path.* 5: 23: 1928.
3. Herrick, F. C.: An Experimental Study into the Cause of Increased Portal Pressure in Portal Cirrhosis. *J. Exper. Med.* 9: 93: 1907.
4. Madden, J. L.: Lore, J. M., Gerold, F. P., and Ravid, J. M.: The Pathogenesis of Ascites and a Consideration of its Treatment. *Surg. Gynec. & Obst.* 99: 385: 1954.
5. Ravdan, I. S.: Surgery of Portal Hypertension. *Lancet.* 2: 29: 1957.
6. Welsh, C. S., and Ramos, A. G.: Results of Portocaval Shunts in the Treatment of Portal Hypertension. *Surgery.* 41: 756: 1957.
7. Dye, W. S., Capps, R. B., Baker, L. A., Grave, W. J., and Julian, O. C.: Evaluation of Venous Shunt Surgery in Portal Hypertension. *Arch. Surg.* 74: 959: 1957.
8. Ratnoff, O. D., and Patek, A. J.: The Natural History of Laennec's Cirrhosis of the Liver. *Medicine.* 21: 207: 1942.



## EXECUTIVE COMMITTEE

of

## THE MEDICAL SOCIETY OF NOVA SCOTIA

JUNE 8th - 1958

## DALHOUSIE PUBLIC HEALTH CLINIC

## RESUME OF MINUTES

The Meeting was called to order at 9 a.m. by the Chairman, Dr. A. G. MacLeod.

## Item I—ROLL CALL

Dr. A. L. Murphy, President.....	Halifax
Dr. H. J. Devereux, President-elect .....	Sydney
Dr. J. R. McCleave, Immediate Past President...	Digby
Dr. C. H. Young, Honorary Treasurer.....	Halifax
Dr. A. G. MacLeod, Chairman, Executive Comm.	Dartmouth
Dr. H. R. McKean (as alternate for	
Dr. S. G. MacKenzie.....	Colchester-East Hants
Dr. D. Drury, Executive Member.....	Cumberland Medical
Dr. F. A. Dunsworth, Executive Member.....	Halifax
Dr. D. I. Rice, Executive Member.....	Halifax
Dr. H. J. Martin, Executive Member.....	Cape Breton Medical
Dr. L. S. Allen (as alternate for	
Dr. A. W. Ormiston) ....	Sydney
Dr. R. G. A. Wood, Executive Member.....	Lunenburg-Queens
Dr. F. J. Granville, Executive Member.....	Pictou County Medical
Dr. J. P. McGrath, Executive Member.....	Valley Medical
Dr. H. C. Still, Editor-in-Chief.....	Halifax
Dr. A. M. Marshall, President, (observer).....	Halifax Medical
Dr. C. J. W. Beckwith, Executive Secretary.....	Halifax

The representatives from the Western Society (Dr. D. R. Campbell) and from the Antigonish-Guysborough Society (Dr. J. A. MacCormick) were not present.

Minutes of the Meeting of January 27th. were accepted as distributed to Members of the Executive.

The Chairman remarked that the purpose of this meeting was primarily to review reports for the General Council of the C.M.A. preparatory for that meeting on June 16 and 17. It was the hope of the chair, that the afternoon could be devoted to this matter and that the morning session would be devoted to items of immediate importance to the Executive Committee. This was agreed to by the Members.

**REPORT OF ADVISORY COMMITTEE ON HEALTH INSURANCE**

Halifax, N. S.

**To The Chairman of the Executive Committee:**

Since the last report on January 28, 1958, this Committee has continued its regular weekly meetings. In addition, special meetings were held on two occasions with the Advisory Committee of the Nova Scotia section of the Maritime Hospital Association, with the medical M.L.A.'s, with the Chairman and Vice-Chairman of the Hospital Services Planning Commission, with the Executive of the Nova Scotia Association of Radiologists, and a combined meeting with the Executive of the Nova Scotia Association of Radiologists and the Hospital Services Planning Committee.

At our first meeting with the Hospital Advisory Committee we were informed of the anticipated financial difficulties facing hospitals as a result of uninsured out-patient radiological services. They asked us to review the situation in the light of the number of out-patient radiological services performed last year and see if we could recommend insured out-patient coverage to at least the number of examinations done in 1957. We discussed the question of amount and methods of remuneration to radiologists in terms of work-load rather than income. Although they had previously requested all hospitals to agree on remuneration by salary only, in view of our discussions they thought a fee for service method might be workable.

We asked the N.S.A.R. to review the work-load of both in-patient and out-patient services done in 1957 to see if they could recommend some method by which insured out-patient services could be implemented. The radiologists agreed to change their recommendation from an optimum work-load of 8,000 examinations to a maximum of 12,000 examinations which could be designated insured services. In some localities it would be necessary to have patients on a waiting list, but this would only be comparable to the bed situation with patients waiting for admission to hospital.

The draft Bill entitled "An Act to provide for certain Hospital Services and Insurance" and the draft Bill entitled "An Act relating to Public Hospitals and to Repeal Chapter 161 of the revised statutes, 1954, the local Hospitals' Act," had been tabled in the House on April 10, 1958. These were reviewed at our meeting on April 12th. Section 6, paragraph 2, stating "not fewer than two commissioners shall be members of governing bodies of hospitals or administrative officials of hospitals, and at least one commissioner shall be a member in good standing of The Medical Society of Nova Scotia," received the close attention of the Committee. We were given to understand that this assured the Society of direct representation on the Commission.

Copies of the report of the H.S.P.C. to the Legislature have been forwarded to all members of the Advisory Committee on Health Insurance and to the Secretary of each of the nine Branch Societies.

The Hospital Services Planning Commission held an Institute on Hospital Insurance on April 21-23, 1958. Two members of the Committee Dr. C. B. Stewart and Dr. D. M. MacRae, presented papers. Branch Societies with no representation on the Advisory Committee of The Medical Society of Nova Scotia were requested to have their representative on the Executive of this Society attend the meeting on April 22nd, when matters of direct interest to the medical profession were on the programme.

At our last meeting with the Hospital Advisory Committee, it was agreed that remuneration to radiologists for the professional component of radiological service be on fee-for-service basis based on a schedule of fees of The Medical Society of Nova Scotia (modified) which will recognize the principles of insured diagnostic services. It was also agreed that, when there are administrative duties for the radiologist, an arrangement will be made between the hospital and the radiologist for remuneration to cover such duties and responsibilities. In similar manner an understanding re teaching may be included. Such duties, responsibilities and teaching to be separate from the professional component of the clinical service. It was agreed that both groups should request the Minister of Health to consult with us during the formative stage of drawing up the regulations required under Bill 93. The following letter was sent to the Honourable R. A. Donahoe on April 30th:

"Dear Mr. Donahoe:

The nucleus of the Advisory Committee on Health Insurance of The Medical Society of Nova Scotia continues to hold meetings at least once weekly.

Resulting from recent information, it would appear that regulations pertaining to the implementation of Hospital Insurance are being, or will be drawn up for submission to the Governor in Council.

Since these will be the basis for operation of the plan, the Committee of The Medical Society, at its meeting on Friday, April 24th, passed the following resolution which I have been directed to forward to you; "Resolved that this Committee request that the regulations pertaining to Hospital Insurance in Nova Scotia be made available for study during the formative stages."

This is forwarded to you, as Minister of Health, since it is our understanding that the Hospital Services Planning Commission, or the Hospital Insurance Commission when appointed, is responsible to the Minister of Health.

We trust that it will be possible to arrange for this, as we believe that the importance of these regulations is paramount.

The Committee would wish to express sincere appreciation for the recent Hospital Insurance Institute and to congratulate the Commission on the thought and organization of the agenda, the pleasant and efficient manner in which it was conducted and the very great value it was to those who attended and to the province as a whole.

Yours truly."

(Sgd.) C. J. W. Beckwith, M.D.

The following reply was received:

"Dear Dr. Beckwith:

I have for acknowledgement your letter of April 30th.

I have informed the Hospital Services Planning Commission of the wishes of your group and feel sure that when preliminary drafts of the Regulations have been completed, that it will be possible to make these available to you.

Yours very truly."

(Sgd.) R. A. Donahoe,  
Minister of Health.

The two meetings with the Chairman and Vice-Chairman of the Hospital Services Planning Commission and the combined meeting with the Executive of the N.S.A.R. and the Commission were for discussion of the following two problems. First, since we had recommended no insured out-patient radiological services could be properly provided at the time of the initiation of the plan on January 1, 1959, we wished to present new evidence and the recommendation of the radiologists that they would be willing to handle the maximum of 12,000 examinations per year as an insured service. The Commission expressed doubt on the ability of the X-ray facilities and technicians to provide such coverage and it was agreed that this matter should be further investigated. The second point for discussion was the amount and method of remuneration to radiologists. The Commission agreed that it would accept in principle that remuneration could be on a fee-for-service basis, the fee to be determined by The Medical Society of Nova Scotia scale of fees for 1959, so that the remuneration based on a work-load of 8,000 examinations per year would produce an income commensurate with that of other specialities. Also that where the radiologist had to do a greater number of examinations that he would receive additional remuneration.

Further meetings will be held with the interested groups and the Commission when necessary. The Executive Committee at this time should select a number of members of whom one could act as a member of the operating Commission when this is established.

Respectfully submitted,

F. J. Barton, M.D.

H. E. Christie, M.D.

H. J. Devereux, M.D.

R. O. Jones, M.D.

H. F. McKay, M.D.

D. I. Rice, M.D.

C. B. Stewart, M.D.

C. J. W. Beckwith, M.D., Secretary

D. M. MacRae, M.D., Chairman.

Moved by D. M. MacRae  
that the report be adopted.

Seconded by D. I. Rice

**Discussion:** Dr. MacRae amplified his remarks concerning selection of names from which one could be appointed as a Commissioner to the Hospital Insurance Commission. After discussion it was: Moved by—Dr. D. I. Rice  
Seconded by—Dr. F. Dunsworth

"A Special Committee of three members of the Executive be appointed to determine the requirements as regards qualifications, time required, etc., and to canvass the profession for the purpose of selecting candidates who would be prepared to serve on this commission and who would be acceptable to the Society for this purpose." Carried."

The Chairman then asked for nominations for this sub Committee

The following committee was elected:

Dr. D. I. Rice, Chairman

Dr. H. J. Martin

Dr. J. R. McCleave

The sub-Committee was directed to inform the voting Members of the Executive Committee before final action was taken.

The motion for adoption of Dr. MacRae's Report was carried.

**Report of Committee on Legislation:**—This was an interim report presented by Dr. J. McD. Corston. The Chairman of the Executive requested that the report and discussion be regarded as confidential because of its nature. This was agreed to by all members.

Moved by—Dr. J. McD. Corston Seconded by Dr. J. P. McGrath That the report of the Committee on Legislation be adopted. Carried.

The Chairman then welcomed members of the Executive of the Provincial Medical Board and expressed appreciation for this opportunity to discuss matters of mutual interest and concern,

### Polio Vaccination Programme

Dr. R. A. Moreash, Chairman of the Committee on Public Health and the Secretary had been requested to attend a meeting with representatives of the Nova Scotia Chapter of the Polio Foundation and the Department of Health. Copies of the plan proposed by the Nova Scotia Chapter had been forwarded to the chairman of the Committee on Public Health, who had written the Secretary that the Plan had the approval of that Committee—This recommendation was presented to the Executive. Ensuing discussion resulted in the following:—Moved by—Dr. D. I. Rice Seconded by—Dr. H. J. Devereux

"The Executive of The Medical Society of Nova Scotia endorse the principle of making available to all persons polio vaccine, free of charge. The administration of polio vaccine to indigents, school and pre-school children should be available through adequate clinics, in which remuneration would be that agreed to by all those physicians participating. The administration of vaccine to all other persons, should be the individual's responsibility to be paid for on a fee-for-service basis. Carried."

## BUSINESS MATTERS

### 1. Group Life Insurance

A new increased schedule of protection has been tentatively proposed by the North American Life which would double the present basic amounts of insurance at comparable rates. The details of this had been included in the agenda sent to the members. Discussion resulted in the following motion: Moved by—Dr. D. I. Rice Seconded by—Dr. H. J. Martin

"North American Life Insurance Company be advised that the Executive of The Medical Society of Nova Scotia accept the proposed increase in the amount of coverage and request that they forward this information to all members of the Society. Carried."

### 2. Group Disability Insurance

The proposal that the "waiting period" for group disability insurance be changed required the unanimous endorsement of all participating members. The Secretary stated he had presented the information to two Branch Society meetings at which participating members indicated that they do not wish a change in the waiting period. The Executive Committee agreed to accept this as against a change.

### 3. C.M.A. Meeting

- (a) The Executive approved a report on the proposed reception for General Council and their Wives, to be held on Tuesday, June 17th.
- (b) The Executive approved places for a meeting between representatives of The Medical Society of Nova Scotia under Dr. D. I. Rice, Chairman of the Committee on Public Relations and Representative of the Public Relations Committee of the Canadian Insurance Medical Officers Association.
- (c) The Executive approved of the Nova Scotia Division participating in the C.M.A. and Divisional Secretaries conference during the C.M.A. meeting. This follows the pattern of joint sponsorship of the C.M.A. Meeting by the four Atlantic Divisions.

4. The following motion from the Valley Medical Society was approved by the Executive Committee and forwarded to the Dean of Medicine: "That a suggestion be made to the Dean of Medicine that Students in fourth year be given:

- (a) special instructions and lectures in the use of physiotherapy and manipulation in the treatment of low back pain.
- (b) a short course of lectures on ethics, including patient-doctor relationship and physician to physician relationship, and the capabilities and limitations of the recent graduate.
- (c) a short course of instructions in elementary bookkeeping and economics pertinent to the practice of medicine."

5. The proposed pamphlet giving information on the Tumor Clinic and prepared by the Clinic was unanimously accepted. Expression of appreciation was made through the Cancer Committee (Chairman, Dr. C. Tupper) to Dr. N. H. Gosse. Moved by—Dr. H. C. Still Seconded by—Dr. J. P. McCleave.

"The Nova Scotia Tumour Clinic pamphlet be circularized to the profession in Nova Scotia and that subsequently, a representative of the Tumour Clinic attend the various regional Society meetings to explain the functions and purpose of the Tumour Clinic and answer questions.

Carried."

6. The Executive Committee was informed that the new office space in the Dalhousie Public Health Clinic on the ground floor at the rear of the building would be ready for occupancy in the near future. A discussion relative to equipment resulted in a decision to leave the matter in the hands of the Officers of the Society and the Executive Secretary.

The meeting adjourned at 12:30 p.m. for luncheon.

The meeting reconvened at 1:15 p.m. with Dr. A. G. MacLeod Chairman, in the chair.

### NEW BUSINESS:

Item A—The first item was a letter from Doctor C. H. Young, Honorary Treasurer in which he tendered his resignation due to the fact that he would be away from the province for the next twelve months, having accepted a residency at Sunnybrook Hospital, Toronto. Doctor A. L. Murphy, President, moved that this letter be accepted with real regret and expressed sincere

appreciation on behalf of the Society for the excellent service which Doctor Young had given during his term of office. It was agreed that the officers of the Society would name an Honorary Treasurer on a temporary basis who would act until the Annual Meeting. (Doctor W. A. Murray, of Halifax has accepted this temporary appointment).

**Item B**—Doctor Still introduced the matter of the continuance of charges to physicians for laboratory services rendered to patients in the form of the following motion. Moved by—Dr. H. C. Still Seconded by—Dr. J. R. McCleave

“This Society take immediate action to resolve the present impass between practising physicians and Central Laboratory Services regarding the collection of fees for laboratory services rendered. Carried.”

**Item C**—Doctor Devereux made a few remarks about the Annual Meeting 1959 to be held at Keltic Lodge. (Since the meeting, Doctor Devereux has confirmation that Keltic Lodge will be available June 23-27 incl. These dates would include the time required for Executive Committee meetings).

**Item D**—The Secretary reported on the Annual Meeting 1958. The dates for it will be Friday, October 24 and Saturday, October 25. Appreciation was expressed for the co-operation of the Refresher Course Committee in giving the last day namely October 24th for the Annual Meeting of The Medical Society of Nova Scotia. The meeting will be held in the Lord Nelson Hotel. Dr. W. A. Murray is Chairman of the Programme Committee. As of this date, fifteen exhibit spaces have been taken up.

**Item E**—The Sub-Committee which had drawn up a resolution concerning polio vaccine introduced the motion already referred to under Item 3(d). This was carried.

At 2 p.m. the Reports to General Council were

Dr. R. O. Jones, a representative for U. S. Division was present. Dr. C. B. Stewart was unable to attend. The other representatives to General Council were Drs. A. L. Murphy, President; H. J. Devereux, President-elect; J. R. McCleave, Past President; F. J. Granville, J. P. McGrath, R. G. A. Wood and C. J. W. Beckwith.

THE MEETING ADJOURNED AT 3:45 p.m.

C. J. W. B.

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ACKNOWLEDGEMENT. The Book Review of “Medicine and the Navy” which appeared in the July issue of the Bulletin was by Surgeon Captain Richard Roberts, R.C.N., and reprinted by kind permission of the Medical Services Journal.

## —ANNUAL MEETING—

## THE MEDICAL SOCIETY OF NOVA SCOTIA

## LORD NELSON HOTEL

FRIDAY OCT. 24 — SATURDAY OCT. 25—1958

The Annual Meeting for 1958 will be principally a business meeting. This decision was made by the Executive Committee because the C.M.A. met in Halifax June 16-20th, 1958.

Friday, October 24th, which would have been the last day of the Refresher Course has been given to the Society for the first day of the Annual Meeting. The Medical Society is grateful to the Refresher Course Committee for this co-operation, since the Society meeting following immediately on the Refresher Course will obviate repetition of travel and time away from practice.

The Chairman of the programme committee is Dr. W. A. Murray of Halifax.

### Housing

Due to the Refresher Course preceding the meeting of The Medical Society and because reservations for accommodation will have been made individually for the Refresher Course, there will be no Housing Application form for this Annual Meeting. Members are requested to make their own arrangements for accommodation and it is suggested that these be made not later than Monday, October 13, 1958.

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### 1958 DALHOUSIE REFRESHER COURSE:

This year the course will be held on October 20th, to 23rd. inclusive, which dates immediately precede the Annual Meeting of The Medical Society of Nova Scotia

The specialties of both Medicine and Surgery will be featured; the guest speaker in Medicine will be Professor R. V. Christie, Professor of Medicine, McGill University. The September issue of the Bulletin will have name details of the Program.

The John Stewart Memorial Lecture will this year be given by our own Dr. H. B. Atlee. The Medical School at Dalhousie is pleased to honor him in this manner. His Topic will be "A Teachers-eye view of the future of Medicine."

Further information concerning the course will be released through the mails.

A third feature of the course will be participation by the College of General Practice. A round table discussion on "The Common Infectious Diseases" will be given.



**DR. JUDSON VYE GRAHAM**

## An Appreciation

My first meeting with Dr. Graham was in my student days, when he gave a clinic to my medical class at the Children's Hospital. I believe that we were, one and all, impressed with his vitality and zeal and with his outstanding enthusiasm for the profession and calling of medicine.

From 1930 until 1958 he and I were closely associated as medical practitioners on Coburg Road. Proximity entered into friendship and his good judgment helped me in innumerable ways and at many times, in the problems where I required his help. Dr. Graham was dedicated to the art of medicine. No time and no occasion could be inopportune, if a patient or a colleague required his assistance. For many years he had one of the largest medical practices in Halifax. I believe that it will be many years before there is another such as he.

Born of Pictou County Scottish parents, the young Judson Graham was filled with the yearning for advancement in education, which was in-bred in so many of that distinguished ancestry. His education was financed largely through his own efforts. The account that he gave of himself as a teacher, medical practitioner, diagnostician and surgeon is surely an inspiration to his many colleagues, students and friends.

A dour and stern exterior at times disguised a kindly spirit; but when his splendid powers of diagnosis and treatment were necessary, he had that kindness of heart and touch which endeared him to so many hundreds of patients who were helped by his zealous care. With all this, he had a truly Christian conscience and soul.

More than 350 years before the birth of Christ, the Greek philosopher, Plato, wrote:

"I am confident in the belief that the souls of the dead are in existence, and that the good souls have a better position than the evil."

There can be no doubt that Judson Graham was, indeed, one of those "good souls" and his name will long be remembered—and his memory cherished—in this Province.

(signed) J. W. MacINTOSH, M.D.

## Personal Interest Notes

(a) As of the first of September, Dr. Sol Hirsch will become a geographical full-time staff member of the Department thus following out the suggestion of the recent Survey Committee of the Medical School that there be two full-time teachers in the Department of Psychiatry. Dr. Hirsch will particularly devote himself to the development of teaching activities with under-graduate medical students in the psychiatric Out-Patient Department.

(b) Dr. R. J. Weil has been invited to give a paper at the International Congress of Psychotherapy to be held in Barcelona, Spain during the week of August 25. The subject of his paper will have to do with psychotherapy in spontaneous abortion discussing the research findings of the inter-disciplinary group of Obstetrics, Bio-chemistry, Psychiatry, and Pathology which has been active in this research project in the Medical School during the past four years.