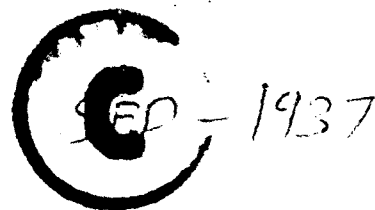


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VOL VI

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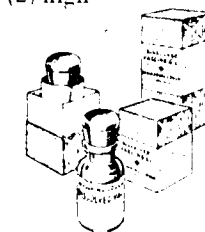
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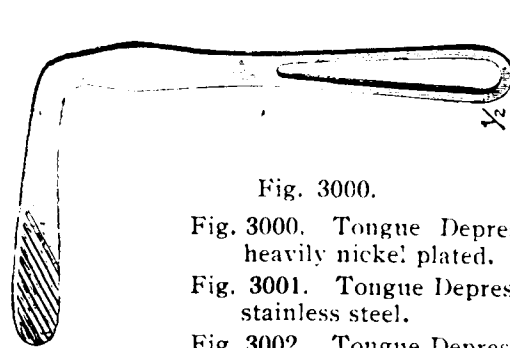


Fig. 3000.

Fig. 3000. Tongue Depressor, Hartmann, made of steel, heavily nickel plated.

Fig. 3001. Tongue Depressor, as above, superior quality stainless steel.

Fig. 3002. Tongue Depressor, folding aseptic.

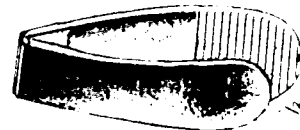


Fig. 3002.

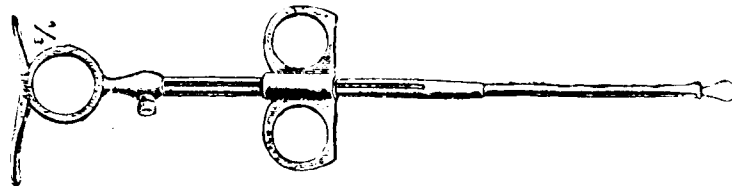


Fig. 3003.

Fig. 3003. Tonsil Snare, Eve's, heavy pattern, simple slide action.

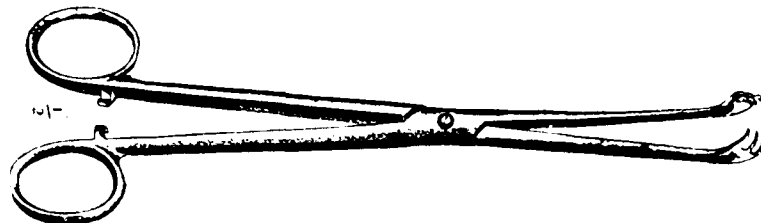


Fig. 3004.

Fig. 3004. Tonsil Vulsellum Forceps with side jaws and catch heavily nickel plated.

Fig. 3005. Tonsil Vulsellum Forceps as above. Stainless Steel.

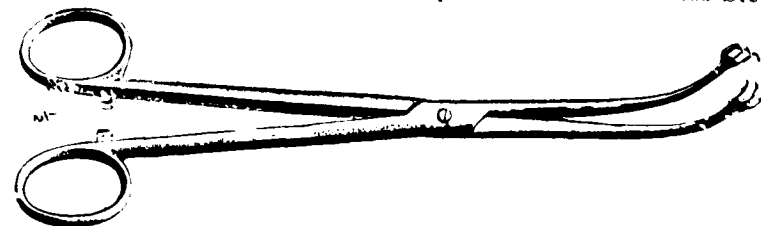


Fig. 3006.

Fig. 3006. Tonsil Vulsellum Forceps, curved on flat, steel nickel plated.

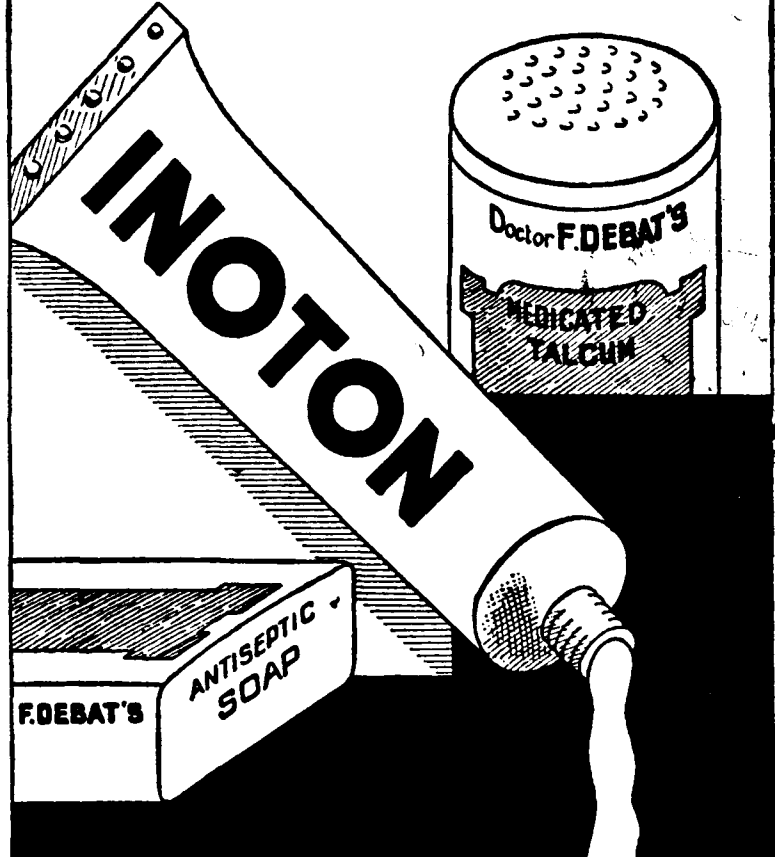
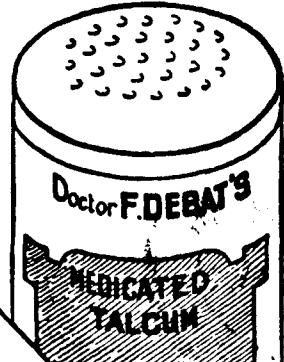
Fig. 3007. Tonsil Vulsellum Forceps, same as above. Stainless Steel.

Fig. 3008. Button Vulsellum Forceps as used in General Hospital. Steel Nickel plated.

Fig. 3009. Button Vulsellum Forceps, same as above. Stainless Steel.

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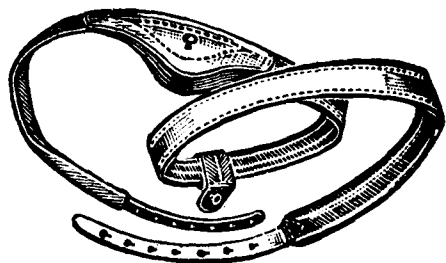
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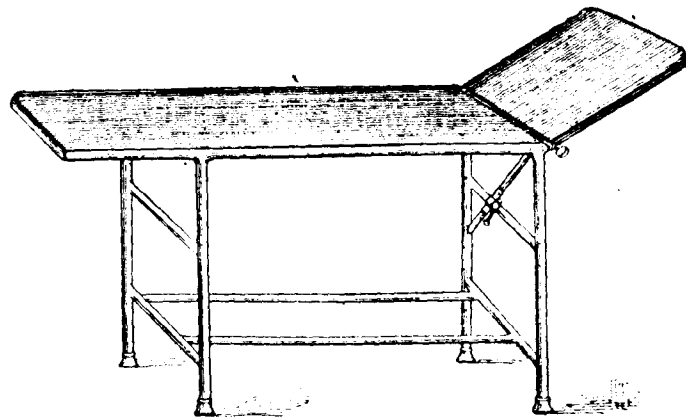
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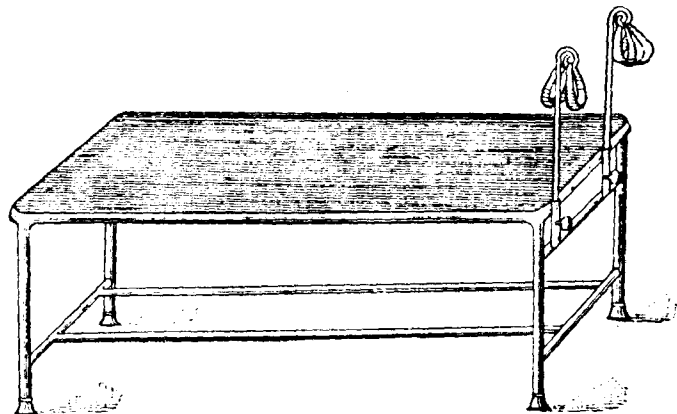
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Editors : Dr. K. P. Rama Hebbar & Dr. P. R. Venkappaya.

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SEPTEMBER 1937

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Annual Subscription : Rs. 5 ; foreign : 10 sh.; Single Copy : As. 8

Sample Copy for 4 As. Stamps.

Office of the Editors & Publisher : 246, Thambu Chetty St., Madras, India.

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MEDICO-SURGICAL SUGGESTIONS

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THE MODERN TREATMENT OF FRACTURES.

BY P. ROUX, F.R.C.S. (EDIN.), M. CH. ORTH., (L'POOL,) CAPE TOWN.

In ancient writings on the treatment of fractures it is striking to see the profound conception Hippocrates had of the basic principles of treatment. These differ in only a minor way from what we hold to-day.

The knowledge of treatment has been added to as the result of civilization, either by wars or through the mechanization of our lives. We have even reached the stage of comparing the figures of the 'toll of the road' with those of a European war. The future is supposed to be in the air, that is, the development of aerial transport. So far the accidents from this source do not allow of much treatment. The importance of efficient treatment was realized in the Great War and is now realized by our insurance companies, whose chief interest is naturally from the economic standpoint.

We have had several pioneers in this field of treatment and some of them are with us still. The extent of publications in recent years on this subject is an indication of the very wide interest which is being taken. The apathy of senior surgeons, who used to delegate this branch to the junior of the team, is changed, and in its place is the development of special facilities for those who take a live interest in the subject. The orthopædic surgeon has played his part in the development of this interest. Alarming criticisms resulted in a survey of the hospitals of the type of work done. Reports of these surveys have appeared in our journals from time to time.

The fact that the orthopædic surgeon is specially interested in this subject does not exclude the necessity of sound knowledge, at least of all routine fractures, by everyone whether he be surgeon or G. P.

The principles of modern treatment are the same to-day as of old, that is —

- (1) The fracture should be reduced, if deformity has occurred.
- (2) The injured part should be kept at rest uninterruptedly until bony union has taken place.

(3) The function of that part should be restored.

It is to be remembered that every fracture is a potential source of deformity. This is evident from the common cause of deformity which results because movement at the injured area causes pain; this results in spasm, and this in its turn brings about deformity. It is obvious that this sequence is abolished when the part is kept at rest and no movement can occur.

When treatment is considered, we think in terms of ultimate function as the only goal, and are not worried by the obsession of anatomical alignment and a perfect X-ray picture—these naturally are our main "guides" in treatment.

Function demands, above all, bony union, with correct alignment, and it often taxes one's judgment as to whether a fracture has been sufficiently reduced for a good result to occur, or whether more serious steps, probably operative, are warranted—remembering that these steps are usually not without some element of risk. This is observed in such cases as show a perfect X-ray picture, but to obtain it so much damage to soft parts or joints has to be done that function is poor. The latitude which we may allow in the degree of reduction depends on the area involved and the age of the patient—e.g. in the newborn infant obvious malunions are eventually straightened by nature, while no latitude at all is allowed in the intra-articular displacements of adults.

The principles of treatment to-day differ in only one respect from what has always been the accepted custom. I refer to the restoration of function where we manage to facilitate matters to a very marked degree. Instead of keeping the whole limb at rest until bony union has occurred and then commencing to restore the use of that limb, we keep at rest only the part affected and maintain the function of the limb as a whole as far as possible—e.g., in a Colles' fracture only the wrist-joint is kept quiet and all the other joints are kept active by constant use. It is therefore obvious that when bony union has occurred, and the splint or method of enforced rest is removed, the limb affected has already a great amount of its function. There is no atrophy or adhesions causing stiffness, and it is comparatively easy for the patient himself to restore its full function. In this way our modern treatment has superseded completely such methods as frequent inspection of a fractured site with removal of splints, massage, movement of adjacent joints etc. Such methods only predispose to the recurrence of deformity and non-union.

As examples of functional treatment I may refer to the ambulatory treatment of leg fractures, the exercises practised by those in spinal jackets, and the active use of a splinted forearm and elbow. Even in an abduction frame the hand is continually grasping objects and the forearm and shoulder actively moved as soon as possible. In

the case of a limb where movement of the joint is not possible, the patient can do tonic contractions—e.g., the patella can be kept free on the femur and the quadriceps in good tone by tonic contractions only. We prefer to consider these modern methods as functional or active treatment of the fracture, and it is obvious that its simplicity, its avoidance of so many complications, its saving in time and its regard for the comfort of the patient is of benefit to all concerned.

These methods are extremely conservative and we try to make them as simple as possible, because it is a common experience that a complicated or elaborate method is seldom a good one.

I do not share the enthusiasm displayed by many for skeletal traction, although, no doubt, their results justify their use of the method. If I can obtain the same result without the added risks and discomfort to the patient, I think it is preferable to do without this aid. The conception of the principle of complete rest to the injured part is all that is necessary, and this should be obtained in the simplest possible way—the patient, of course, being the one to be considered.

Treatment does not cease with the advent of bony union. It is the duty of the surgeon to see that all possible function is restored. It is strange how often one sees a fracture perfectly reduced and united and the limb useless to its owner because of adhesions in joints, ligaments and tendons. It is in this field that the unqualified have the opportunity of bringing about their miraculous cures in fractures and sprains by a simple judicious manipulation and supervision until full use has occurred. This subject has been referred to in a Presidential Address in the Congress of 1933 by Dr. Radford. It is our duty to see that the patient has all possible function restored.

COMPOUND FRACTURES.

As far as these fractures are concerned, the all important question is that of the presence, or absence, of sepsis. This necessitates treatment of the injury as soon as possible after its occurrence—the first two hours if possible.

The importance of prompt and adequate treatment cannot be overestimated. The wound has to be excised with all due care, as is also observed in the removal of all damaged tissue: the preservation of nerves and vessels, the attention to the deformity of bone present and the conversion of this "open" fracture into a "closed" aseptic one. In these injuries the interest of sepsis comes first, then that of bony deformity, and then that of nerve or other injury—in that order of importance.

X-ray. The ease of the diagnosis of fractures by X-rays has caused us to lose our clinical sense of touch. We hardly trouble to

make a thorough examination before requesting an X-ray. That undeveloped sense of touch we miss when attempting the reductions of fractures. It was a revelation to me to see a senior, trained before the use of X-rays, reduce a fractured forearm by touch alone. X-rays are to help and guide us, but are to be correctly interpreted. The views are to be strictly of routine directions, except where stereoscopic pictures are used. I often see an excellent picture which is of no use because of the projection.

Splints. The choice of the method of splintage is not important as long as it fulfils its purpose. Many of our discarded splints were, I am sure, efficiently employed by those accustomed to their use. It is the era of plaster of Paris, but again, we find it used even in old Egyptian times. It is a splint made for each particular purpose, and as such cannot be improved. At first some care and experience is necessary as possible circulatory sequelæ are always to be remembered.

The "armamentarium" of the fracture surgeon is: Plaster of Paris, Thomas splint, Thomas frame, Cramer or similar splinting, abduction frame.

Massage. What aid is massage to us in the treatment of fractures? A clear and comprehensive answer to this question was given in an article by Vance in the *B. M. J.*, lately.

If treatment is carried out according to our principles, it is obvious that there can be very little use for massage; indeed, I have developed the habit of questioning my treatment whenever I have to employ massage to regain movement and power after an injury. It is clear to me that a dozen contractures (only tonic if necessary) to a group of muscles gives more exchange of fluid in a limb than half an hour of rubbing.

In patients where I have failed to control their mentalities and where no co operation is present, I employ supervised active movement—*i.e.*, the patient does the exercises under the supervision of the masseur. It is a "fool proof" method, as compared with the passive movements often carried out. Active movement can take place only when it is correct to do such a movement—*e.g.*, it is correct to commence moving an elbow after an injury to it only when the patient himself can institute such a movement.

The other physio-therapeutic aids *e.g.*, diathermy, radiant heat, baths, etc.,—all play but a small part in the treatment of fractures. If the principles are correctly applied, they are seldom found necessary.

Bony union is the essential in our treatment of fractures. I want to stress this. No method must jeopardize this process in the slightest. I am referring mainly to the frequency of reduction of fractures by open operation. I believe that even a simple reduction, with the necessary separation of periosteum and further damage to tissues

does to some extent delay and hinder the process of bony union. This is seen most often in fractures of the bones of forearm and leg. Naturally an open reduction may be necessary for the purpose of obtaining a satisfactory apposition. When this has to be done, we use no internal splint except a bone graft when required—rather do we depend on efficient external splintage to keep the reduction. As far as we can judge, we minimize the risk of non-union as much as possible.

I find that there is still a wide belief that a fracture is united in four to six weeks. Although this may be true of a few fractures, especially in children, it is wholly incorrect for the vast majority of fractures. Forearm bones take eight weeks as a minimum and the femur six months upwards to consolidate.

The cause of delayed and non-union are generally due to a lack of appreciation of the principles of treatment. Only seldom do we find a cause for which we ourselves are not to blame.

The treatment of non-union is by bone graft. This usually gives very satisfactory results.

FRACTURES REQUIRING OPERATION:

In spite of all the advance made in the treatment of fractures, we are still left with a group which require operative assistance:—

1. Olecranon and patella fractures with displacement.
2. Intra-articular fractures requiring accurate reduction, *e.g.*, lateral condyle of humerus and condyle of femur.
3. Fractures in which reduction has failed by the closed method, *e.g.*, lower third of radius and tibia.
4. Untreated or poorly treated fractures coming up for attention a long time after the occurrence.
5. Malunions: Pott's and Colles' commonly.
6. Intra-articular fragments of bone requiring removal, *e.g.* crushed head of radius and spine of tibia.
7. A group which have been correctly reduced but where there has been no active functional treatment. These are usually with stiff joints, ligaments and tendons and require manipulation before the patient can resume the use of the limb.

FRACTURES COMMONLY GIVING TROUBLE:

1. An injury to the wrist is only too often regarded as a sprain, the presence of a fractured scaphoid or luxated lunate being discovered only when the sprain refuses to improve; and while mentioning the hand, may I say that often I see a hand with damage to perhaps only one tendon, and all the others adherent and useless. The hand is therefore unnecessarily severely crippled and it always makes one realize that as a result of treatment a tragedy has occurred. By all means suture tendons and splint the injured part, but not at expense of the rest.

2. The lower epiphysis of the radius in children must be completely reduced; if this is not done, subsequent growth will be in a wrong direction, giving deformity with poor function.

3. Elbow injuries—most of the bad results of fractures occurring in this region are a result of incorrect treatment. There has usually been too much treatment. Except for the three varieties mentioned which require open operation, all the others can be simply treated and enjoy a good prognosis. We all know that Volkmann's ischæmic paralysis and myositis ossificans are usually, but thank goodness not always, the result of incorrect handling of the case. Treatment is really so simple and results so satisfactory that I welcome a patient with an elbow injury.

4. Shoulder injuries often require the abducted position for splintage. This necessitates an abduction frame. It takes some time for the patient to get accustomed to the encumbrance and the surgeon requires to give a fair amount of attention to the splint to keep it correctly adjusted. A plaster of Paris spica for the shoulder is of course much more comfortable to patient and surgeon.

5. *Fractured Spine*: We all know how efficiently these fractures are treated nowadays. Here again may I remind you of the length of time a vertebra takes to become completely consolidated after a fracture. X-rays must be good and be carefully examined for fissures in the vertebra before a negative finding is accepted.

6. *Foot Injuries*: These often require the arches of the foot to be supported for a time after an injury to tarsus or metatarsus. This must be done by correctly moulding the arches while the foot is in P.O.P., and later by fitting a suitable arch support. A fracture of the processus posticus of the talus is often missed and the foot treated for a chronic sprain.

7. *Femurs*: At present we are developing an improvement in the treatment of fracture of the neck of the femur. Up to now our results with any method have been decidedly poor. By using an internal splint, namely, a Smith-Petersen pin, the fragments of bone are brought into and kept in alignment, and the patient, usually old and frail, is subjected to only a short period in bed. Early movement and use of the leg is made possible. At present there are several methods for the introduction of this pin. I feel sure that a simple method will soon be evolved. Bohler uses two X-ray tubes, one at right angles to the other, to check the reduction when operating. It would be a great advance if the pin could be introduced through a small incision, guidance being obtained by two X-ray screens, one at right angles to the other.

SUGGESTIONS FOR FRACTURE TREATMENT IN SOUTH AFRICA.

Before expressing my views, however immature they may be, I would like to draw your attention to what is happening overseas.

In Britain practically all the large hospitals have fracture units, usually under the supervision of the orthopaedic department. All fractures are automatically drafted to that unit. In America much the same arrangement exists.

On the Continent we recognize first the clinic of Bohler in Vienna, famed world-wide for its organization and results. I want to describe some features of this clinic, especially as it is the oft quoted example of an efficient service.

It is because the principles of the treatment of fractures are observed and rigidly followed that the results are so good. This accident hospital is housed on the top floor of an insurance building as a service to its insured. I attribute the success of this clinic to two main factors:—

1. Cases are brought for treatment as soon as possible after the accident. The ease of reduction and simplicity of the fight against infection of wounds are self-evident.
2. A resident staff permanently on duty. A case on arrival is put in charge of a member of the staff, who continues to work at it until a satisfactory reduction is obtained. There are no subsequent or postponed attempts at reduction necessary.

The complete control of the patient until he is fit, the team-work and the facilities provided, all help to make this clinic famous.

Personally I do not share their enthusiasm for skeletal traction and fixation when so often simpler methods will do, and I am also not so brave at brachial and other nerve trunk local anæsthesia. It also strikes one that a patient on the Continent is more docile and long-suffering in pain and discomfort than our own patients.

As far as South Africa is concerned, I would like to see the standard of treatment improve still further. If we accept the view that all doctors are not equally interested in or adapted mentally for this mechanical art, it means that those specially keen should be encouraged. Every doctor has some branch in which he is more interested in than others, and in which he therefore will tend to become more proficient.

We live in a wide country, and it is obvious that all fractures cannot be seen by specialists. Furthermore, it is the duty of all G. P.'s to be proficient in the treatment of the simple routine fractures. Where there are large towns with hospitals, we find some G. P.'s who do the surgical work of that area. In these hospitals I think it would be of benefit if the man or men more interested in this branch than in other branches of surgery were given facilities and encouragement.

In the cities our general hospitals should arrange for the establishment of Fracture Units as we have done in Cape Town. The saving in beds in this hospital, relief to the Massage Department and

ease in the handling of cases are due to facilities enjoyed. In the new Hospital we are promised still better scope.

Facilities comprise :—

- (1) A team to be responsible.
- (2) A well-organized Out-Patient Department.
- (3) Beds for the small proportion of cases requiring prolonged hospitalization, *e.g.*, fractured femur, pelvis and spine.
- (4) X-ray Service immediately available.
- (5) Facilities for operating, plaster-of-Paris work and efficient note-taking provided for.

In such a large Fracture Unit one of the team is in attendance every day, and a review clinic of all cases under treatment is held weekly. It is then possible to keep a check on all cases, noticing the occurrence of any abnormal feature in a case.

Anyone who has visited such a clinic will be struck by the simplicity of methods used, the little effort necessary to do the work, the work, the absence of the usual complications, and the rate of recovery.

The ideal treatment includes "occupational therapy" in which a patient, during treatment, does the things he is accustomed to do in his work. I believe it is not impossible to obtain. The mentality of a worker is rudely upset by the enforced idleness of a simple fracture to arm or leg. No wonder that at the end of treatment we find that the prospect of returning to work comes as a shock to him. I think we ought to take the mental upset of the patient into account. I usually inform the patient at the beginning how long I believe he will be off work and so he is forewarned.

As regards the W.C.A. cases, the advent of payment for this type of work has naturally increased the interest in traumatic surgery. I cannot see that the Insurance Companies will continue to regard every doctor as 100 per cent. efficient in every branch of medicine. It must eventually be delegated to those who are more experienced in special branches. Bohler is rather severe in his book on fractures when he states that only a few fractures can be efficiently treated by doctors who are not specially trained and experienced. In Austria, according to law, the Insurance Companies are responsible for the treatment of the insured. No wonder that they demand the best for the patient, this coinciding with the best in their financial return. It is obvious that for Insurance Companies the best treatment pays by shortening the period of incapacity of the patient and decreasing the percentage of disability when this is present.

It is, however, the patient's interest we have to consider first, and I do not hesitate to stress this.

There are many more suggestions one can make, but I will mention only two :

1. After a patient has had an injury and the injured tissues have recovered, he is still physically and mentally unfit for full duty. Some scheme by which his work can be resumed in a graduated measure is necessary, *e.g.*, the duties being light at first and increased gradually until full duty is possible. There is needless wastage in time in the "partially fit" and "almost fit" workman.

2. Reports on cases must be given with care—if necessary, only by those specially experienced. I think it reflects little credit on our profession when we find doctors giving the most diverse evidence in court on a simple case. Surely a "combined" medical report would be more nearly correct. The ideal would be for the medical evidence to be given by the "Crown," suitable men in the various subjects of medicine to be employed.

I have, in a small way, seen the growth of real interest in the treatment of fractures in our corner of this country. I have no doubt as to the future. This branch of surgery will develop and will continue to be a credit to the science of medicine.

(S. A. Medical Journal March 1937).

CERTAIN COMPLICATIONS OF INFLUENZA.

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Influenza, which is now attributed to a filterable virus, predisposes to secondary infections with a variety of organisms, the streptococcus being the most common invader. Whether or not this invasion by secondary organisms is due to a general lowered resistance and lowered wall of defense as a result of the effect of the toxicity of the primary disease or whether it is due to lowered resistance against bacterial invasion of the secondary organisms as a result of injury to the mucosa of the upper respiratory tract, is a matter of debate. Probably both are factors.

It is difficult in a condition in which the primary disease is associated with involvement of the respiratory passages, and where other organs are affected by the generalized toxemia, to clearly define where the disease leaves off and the complications set in.

Various epidemics of this disease present varying symptoms and what might be referred to as complications. In the present so-called epidemic, during the recent months at least, gastro-intestinal complications have been evident. My observation of these complications is undoubtedly higher than the average since more than 90 per cent. of such cases coming under my observation were either under active

treatment or recent treatment for gastro-intestinal disorders. Again, we must differentiate from the symptoms occurring as a result of the acute toxemia and those resulting at a later date, which consist chiefly of the aggravation of a previously active process, recurrence of an old late lesion, or development of functional disorders. Of the former, simple nausea is the most frequent symptom. I have seen several cases with the presenting symptoms of nausea and diarrhoea with the patient disregarding other symptoms which pointed to influenza. This symptom has rarely been difficult to control, but on few occasions has been complicated by vomiting which has offered difficulty in forcing fluids. Distention, a most troublesome symptom when present, is most often seen in the cases complicated by pneumonia. In all cases of the upper respiratory tract involvement, every effort should be aimed at the prevention of the development of this condition which, when present embarrasses the respiration and, if severe, the cardiac action. I have observed 3 cases of hiccoughs which reached alarming proportions, developing between the third and sixth day of the disease. The presence of this symptom suggests the possible relationship of hiccough due to a specific organism as suggested by Mayo. Constipation could be said to be more an associated manifestation rather than a complication and should receive close attention to prevent distention.

Diarrhoea, though much less frequent has been observed on several occasions, continuing over a period of 2 to 3 days.

The mild type of jaundice occasionally encountered in even the moderately severe cases, is of but little significance; marked jaundice is a dangerous omen as it may represent a severe catarrhal condition of the bile passages or toxic changes in the liver.

Generalized abdominal pain has been noted with little tendency to localization. Dr. W. Wachsmuth, in April, 1933, reported 4 cases in an epidemic, presenting symptoms in the lower abdomen referred to the hospital by the family physician as appendicitis. He reported the blood count as showing no leukocytosis, but a marked relative lymphocytosis. He further stated that before operation is decided upon, every diagnostic aid should be exhausted. In commenting on this paper, Dr. George B. Eusterman states, "This contribution brings up the question of stomach or intestinal flu. I have usually found some other cause for the symptoms in most of the cases so diagnosed. Of course, in severe and grave forms of epidemic influenza, the gastro-intestinal symptoms may be marked, but under other circumstances such symptoms should not be attributed to influenza." The soreness of the abdomen from coughing is to be distinguished from lower abdominal tenderness, which when marked and if localized—fortunately for our peace of mind, rare—should not be ignored and should be investigated by blood studies and frequent observations.

Of the latter group suffering from previously treated gastro-intestinal diseases, care must be taken in both the drugs and the food allowed to prevent aggravation of the previous condition. I have noted that colon cases show the most frequent aggravation of symptoms; this possibly may be a result of the toxemia since there most certainly is a relationship between infections of the upper respiratory passages and various types of colon disorders; but it also can be attributed to necessary frequent catharsis. There is still another disorder, that of functional gastro-intestinal manifestations which occur following such a debilitating illness. Cases presenting symptoms referable to gall-bladder pathology not infrequently date their disability to a so-called attack of flu. Whether this is a possible etiologic factor or whether the infection was sufficient to activate a latent lesion, can hardly be determined. In a series of 908 cases of gall-bladder infections reported by Rehfuess, in which a study of previous infections was made, 21.2 per cent had flu in contrast to the much discussed typhoid history appearing in only 11.4 per cent.

In the present epidemic, skin eruptions of the pustular type have been not infrequent. Occasional subcutaneous abscess follows.

Meningeal irritation is more frequent from toxemia, but meningitis and haemorrhagic encephalitis occasionally occur. Post-influenzal psychoses occasionally are evident. Neuritis, if present, is a most troublesome complication. Arthritis of varying degrees may occur as other symptoms are subsiding.

With a disease of such varying toxicity and disability, we should make every effort to continue reasonable follow-up observations on these cases. It not infrequently happens that during such an epidemic as the present that such follow-up is neglected with the frequent flaring up of previous sinus, pulmonary, and gastro-intestinal disorders. If these conditions receive immediate attention, their successful management would usually be such simpler and a prolonged disability would be considerably shortened. Even the simplest cases, the ones who may not even consider it necessary to consult a physician, are capable of reactivating old conditions.

(*South Western Medicine March 1937.*)

COLLAPSE THERAPY IN PULMONARY TUBERCULOSIS.

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Carson, an English physician, was the first to propose artificial pneumothorax nearly a century ago. While observing consumptives who were under his care, he found that a few in whom spontaneous

pneumothorax occurred, recovered from the disease. It was the result of these observations that prompted him to propose artificial pneumothorax.

Artificial pneumothorax was first introduced as a practical measure by Forlanini of Italy in 1894, and John B. Murphy in this country, independently, in 1898. In 1913, Dr. Cleaveland Floyd of Boston, gave the initial pneumothorax to the late Dr. E. L. Trudeau of Saranac Lake. Since then its use by physicians, specializing in tuberculosis, has become more and more general. Clive Riviere of England made the following statement: "No brighter ray of sunshine has come to illuminate the dark kingdom of disease than that introduced into the path of the consumptive through the discovery of artificial pneumothorax."

Artificial pneumothorax is the most valuable and most widely applicable method of inducing collapse of the lung.

This treatment is frequently unsuccessful due to the presence of pleural adhesions although good results are sometimes obtained even though adhesions are present, provided they are of the string or small band type, that will stretch sufficiently to permit collapse of the diseased area. Due to the fact that oblitative pleurisy occurs so frequently in pulmonary tuberculosis, it is my opinion that better results would be obtained if artificial pneumothorax could be administered in early stage of the disease. Hawes and Stone, in discussing artificial pneumothorax, make the following statement: "As a general rule, it is the patient in the early stages of tuberculosis who is most suitable for compression treatment. There is no doubt that by this means he will be restored to health and placed on a self-supporting basis much sooner than can possibly be expected under ordinary methods. Nature does her work in curing tuberculosis slowly, and by no means surely. Give nature a chance by all means but do not delay too long before giving her help in what she is trying to do." After pneumothorax is established, it should be maintained for two or three years at least.

Indications: Artificial pneumothorax is restricted to cases with essentially unilateral disease, although comparatively few patients are subjected to the treatment who do not have any disease on the so-called good side. Frequently we see the disease in the contralateral lung clear up after collapse of the more diseased lung.

The indications may be listed as follows:

1. Hemoptysis, whether slight or severe, provided it is possible to determine from which lung the blood comes.
2. Chronic fibro-caseous tuberculosis with essential freedom from disease in the contralateral lung.
3. Caseous pneumonic types of tuberculosis.
4. Tuberculous spontaneous pneumothorax cases should be converted into a controlled artificial pneumothorax.

5. In tuberculous pleural effusions the fluid should be aspirated and replaced with air, and the pneumothorax maintained according to the underlying disease.

Simultaneous bilateral pneumothorax is indicated in some cases. The contra-indications are cardiac and renal failure and emphysema.

When adhesions prevent satisfactory collapse, pneumolysis is indicated in selected cases.

Intrapleural pneumolysis was introduced by Jacobaeus of Sweden and Ralph and Ray Matson, in this country, in 1913. It now occupies an important position in the treatment of tuberculosis. Briefly, the operation consists of inserting two cannulae through the chest wall into the pleural cavity, one usually posteriorly, through which the thoracoscope is inserted, and the other anteriorly through which the cautery is inserted. Under direct vision through the thoracoscope, the cautery can be manipulated and the adhesions divided. Practice and skill is required in order to do this delicate operation successfully. Good stereoscopic x-ray films are imperative before doing this operation.

Phrenicotomy, or section of the phrenic nerve, was first suggested by Stuertz in 1911, in order to obtain paralysis of one-half of the diaphragm. He recommended the operation in cases of basal tuberculosis, but experience has shown that occasionally small thin-walled cavities may close, and areas of infiltration in the upper part of the lung heal following this operation. The results will depend upon the degree of elevation of the hemidiaphragm into the thorax. Some authors claim that accessory fibers join the phrenic in twenty-five or thirty per cent of the cases, therefore, when present, these accessory branches must be sectioned in order to obtain paralysis and elevation of the diaphragm. The phrenic nerve takes its origin usually from the fourth, and at times from the third and fifth, or all three cervical roots. It may also receive fibers from the sixth, seventh and eighth, and even the first thoracic root.

When temporary paralysis of the hemidiaphragm is indicated, the phrenic nerve is merely crushed and accessory branches interrupted if present.

This operation is indicated in some cases when artificial pneumothorax is impossible, due to oblitative pleural adhesions. Occasionally it is indicated in connection with artificial pneumothorax where diaphragmatic adhesions may prevent collapse of basal lesions. It may be indicated in some patients who are unable to take artificial pneumothorax, due to the length of time that the treatment should be maintained, and the expense. It is recommended by some when artificial pneumothorax is discontinued, and as a preliminary to thoracoplasty.

Paravertebral extrapleural thoracoplasty is the last resort in the treatment of pulmonary tuberculosis; in other words, it is indicated when all the other methods mentioned, are unsuccessful or impossible to attain. It may be partial or complete. Complete meaning resection of the entire first rib or the first three ribs as recommended by some, and parts of the remaining ribs except the twelfth. When complete it should be done in two or three stages, preferably three.

Extensive unilateral disease with marked fibrosis and cavitation with the heart and trachea pulled toward the diseased side, the diaphragm drawn up, and the ribs close together, is the most satisfactory type for thoracoplasty.

The operation is sometimes indicated in tuberculous empyema which originates during artificial pneumothorax and cannot be cured by repeated aspirations. We have had two cases during the last year in which good results have been obtained following thoracoplasty.

(*Journal of the Oklahoma State Medical Association March 1937.*)

THE USE OF X-RAY IN THE DIAGNOSIS OF BREAST LESIONS.

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In 1913 Salomon published a monograph on local extension of malignant tumors of the mammary gland based on the anatomical, pathological and radiographic findings of sections of the breast after operation. We were unable to find another publication in the medical literature on radiography of the breast until 1929 when an article by Gyones, Gentil and Guedes appeared in the Spanish literature. Following this Warren, Fray, Ries, V. Paschetta, Romagnoli; Seabold and Vogel published the results of their work and drew some very interesting conclusions regarding the interesting conclusions regarding the interpretations of the normal and pathological changes in the mammary gland.

On a properly executed roentgenogram of the breast it is important that the rays strike the breast in an exact transverse position, otherwise there will be super imposition of the roentgenographic image. In the flaccid or pendulous breast Seabold has constructed a cradle that has proven satisfactory. In our work we have used a rectangular compression bag capable of being filled with air after it has been placed under the patient. The technique of the examination has been described in detail in previous reports; since then

certain changes have seemed advisable. We are now using thirty-six inch distance, kilovoltage varying from fifty-five to seventy, one hundred ma. with an exposure of three-tenths to one second with the Potter Bucky diaphragm. By using the above factors there is no distortion of the breast structure and the time is sufficiently short to eliminate movement. Several negatives using different exposure may be necessary to establish a clear concept and the value of the serial study in the diagnosis of certain conditions cannot be over-estimated.

The roentgenogram of the normal breast show four distinct anatomical zones of different densities:

1. The cutaneous zone with confirmation of the nipple and skin margin in profile.
2. The adipose zone of varying degrees of thickness and showing the fibroglandular prolongations from the mammary mass to the skin.
3. The glandular zone with the structures appearing as a pyramid, limited at the back by the retro-glandular zone, with some irregularity of the anterior margin especially in the region of the nipple due to the formation of milk ducts.
4. The retro-glandular zone appearing as a smooth, narrow clear space separating the base of the breast from the pectoral muscles.

Pathological processes, either neoplastic or inflammatory, are shown on the roentgenogram by alterations in contour or changes in density of the anatomical zones of the breast. Through the courtesy of the late Dr. Wainwright, microscopical sections of the whole breast have been made showing alterations in contour and outline of the different zones of the breast and also the changes in density with a correlation of the microscopical and roentgenographic findings.

Two distinct histological patterns of the glandular zone have been described, mazoplasia and cystiphorous desquamative epithelial hyperplasia. Mazoplasia is the term given to the type of desquamation of epithelial cells in the terminal ducts and their acini accompanied by hyperplasia of the pericanalicular and periacinous connective tissue and often with the formation of ducts and acini. On the roentgenogram this state is characterized by a frond-like appearance of the parenchyma with the converging striations forming a fine, indistinct band beneath the nipple and varying amount of non-opaque stroma between the mass of the gland and the derma.

Cystiphorous desquamative epithelial hyperplasia begins as a desquamative epithelial hyperplasia that ends in the formation of cysts; these breasts are often "shotty" to palpation and correspond to the state of chronic cystic mastitis. On the roentgenogram the

fibro-glandular striations are marked, the parenchyma appears to fill all the available space to the derma and there is a broad, dense band beneath the nipple. It is in these breasts that both large and small cysts are found.

Between these two extremes are breasts showing characteristic of each type. Whether one accepts Cheatle's or Handley's explanation of the histological changes accompanying these different states each presents a typical appearance on the roentgenogram.

After the menopause the roentgenogram shows varying degrees of atrophy of the glandular structure with an increase in the amount of non-opaque stroma and a reduction in the fibrous striations. This replacement is far more complete in mastoplasia than in chronic cystic mastitis. The irregularity of the glandular atrophy may lead to soft mottled shadows representing residual lactating acini or senile parenchymatous hypertrophy. The glandular atrophy permits greater density of the cystic lesion than the surrounding stroma.

SOLID BENIGN TUMORS

Solid benign tumors appear on the roentgenogram as circumscribed opaque areas often multiple with a dense periphery but no evidence of invasion of the adjacent tissue. There may be distortion by no interruption of the striations; there is no axillary extension and no evidence of cystiphorous changes.

FIBROSIS

The roentgen appearance of fibrosis of the breast is often not as confusing as the clinical. One sees on the negatives, except in the cases of local trauma, many faint irregular masses of scar tissue involving both breasts with fine striations extending into the axilla, but no abnormalities in the contour of the anatomical zones.

CYSTS.

Cysts are associated with the state of cystiphorous desquamative epithelial hyperplasia. The roentgen findings are characteristic: they appear as smooth, relatively clear areas in the parenchyma of the gland. If a cyst arises in a localized area of the cystiphorous state it may present the appearance of a faint solid tumor without the dense well defined outline. A cyst containing fluid is relatively less dense than a solid tumor.

PAPILLOMA

There are no characteristic roentgen findings to identify these microscopic lesions. The significance of a serohaemorrhagic or a haemorrhagic discharge from the nipple is a moot point. Bloodgood is of the opinion that it more often accompanies a benign rather than a malignant lesion. Deaver and McFarland state that a bloody discharge in a majority of cases is due to papillary growths. Adair says a dark, bloody discharge always means a duct carcinoma. The

consensus of opinion seems to be that discharge from the nipple cannot be regarded as of great significance in differential diagnosis. One finds on the roentgenogram evidence of cystiphorous desquamative epithelial hyperplasia; this, with the bleeding from the nipple warrants a presumptive diagnosis of papillomata in the absence of a mass or roentgenologically demonstrable tumor.

CARCINOMA

Malignant tumors of the breast infiltrate and destroy the neighbouring tissue. They are without definite demarcation and characterized by proliferation. One sees alterations in contour and density of one or more anatomical zones. The tumor appears rather dense and irregular with interruption of the striations. The periphery may be feathery or more compact than the mass giving a false sense of encapsulation due to the compression of the surrounding tissue. Extension into the lymph nodes in the axilla appear as smooth, dense opaque areas, while the inflammatory nodes are faint and irregular in outline.

INFLAMMATORY CARCINOMA

Inflammatory carcinoma of the breast presents such unusual manifestations that the clinician is often misled. The rate of growth is rapid and the tumor may involve the entire breast and be fatal in a few weeks time. Age, trauma, or previous lactation apparently does not enter into the etiology. The roentgen examination in inflammatory carcinoma of the breast shows a homogeneous opacity over the area involved and only by increasing penetration are we able to show the breast structures with the increased fibrous tissue change, the definite tumor mass and marked thickening and infiltration of the skin with the underlying structures adherent to it.

It is possible to study radiographically the mammary gland. The technical factors of the examination are important. The value of the method is shown by the high percentage of diagnostic accuracy in the differentiation of benign from malignant lesions. The identification of early carcinoma in the presence of chronic cystic mastitis before the menopause may be difficult, however the majority of individuals who come for an examination with the history of a lump in the breast are encountered after the age of forty when the involutional changes are such that the neoplastic characteristics are easily identified.

The limitations of this method are: The inability to recognize microscopical areas of cancer; early malignant degeneration in benign tumors and early carcinoma associated with chronic cystic mastitis. Roentgenograms may establish the presence or absence of a mass often before the disease is clinically apparent; define its mammary or axillary extensions; reveal multiple tumors, which are not necessarily benign; call attention to the importance of distant secondary malignancy; reveal both benign and neoplastic changes

and a transition of a benign into a malignant lesion; depict those changes characteristic of the spread of carcinoma along the connective tissue septa. In many cases where the disease seemed to be confined to a single nodule, microscopical sections of the whole breast revealed the frequent presence of impalpable axillary glands and involvement of the lymph structures along the pectoral muscles. These changes dangerous because of the cells, permeate along these septa, reach the more active lymph streams and are easily carried to distant parts. The roentgen examination offers a permanent record of the findings: is a means of serial study of the breast; has none of the physical limitations of trans illumination and in those cases positive for carcinoma, the need for biopsy can be eliminated and is exceeded only by the microscopical examination of excised tissue and we believe will bring patients to operation at a stage when surgery can offer more than palliation in cancer of the breast.

(*The Journal of the Oklahoma Medical Association, March 1937*).

SKIN MANIFESTATIONS OF DRUG INTOXICATIONS

DERMATITIS MEDICAMENTOSA

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The dermatological approach to the patient exhibiting either a circumscribed or generalized cutaneous eruption should proceed in an ordered sequence of thought. This is automatically followed by the trained observer and, if consciously applied, will increase the diagnostic accuracy of the physician who is only occasionally confronted with a skin problem. The diagnosis depends chiefly on objective symptoms which are considered as follows:

1. Is the eruption produced by external or internal factors?
2. If internal, are the skin lesions a disease entity in themselves or are they a symptomatic manifestation of some underlying process?
3. If symptomatic, do they belong to the acute exanthemata group or are they the evidence of underlying toxicity?
4. If toxic, are they associated with visceral disease or produced by focal infections, gastrointestinal food sensitivity and poisoning or skin manifestations of drug intoxications?

Whether a dermatitis is caused by external or internal factors can usually be determined by the appearance, variety and location of its component lesions. If external, the lesions appear to be on the surface of the skin; if internal, they are in the skin. The contact

dermatoses, occupational dermatoses, eczemas produced by chronic irritations, etc., listed under the group of dermatitis venenata consist primarily of redness due to irritation and trauma, vesicles, papules and squamous lesions in circumscribed areas located most frequently on the exposed surfaces. Skin manifestations of internal toxicities are, in general, not sharply margined, show no preference for exposed surfaces and primarily are erythematous eruptions manifestly due to disturbances in the cutaneous capillary system. The atypical character of toxic eruptions distinguishes them from disease entities as, for example, pityriasis rosea, lichen planus, disseminated lupus erythematosus, etc., which are diagnosed either by a photographic impression of each disease in its entity or by an analytical compilation of the primary and secondary lesions composing the disease.

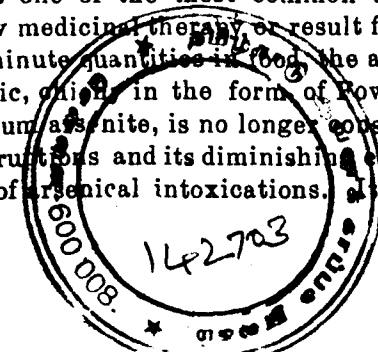
The majority of drug eruptions belong to the erythematous type of lesions and must be distinguished from the acute exanthemata, chiefly scarlet fever and measles. In drug rashes, as a rule, there is no elevated temperature and though there may occasionally be slight sore throat, furred tongue, a trace of albumin in the urine and possibly some desquamation, the sequence of events is not that of an acute exanthem for there is not the same definite incubation period, the eruption comes out more suddenly and violently and generally disappears when the drug is stopped. In drug eruptions the patient is generally not toxic, considering the extent and severity of the eruption, and usually presents very few subjective symptoms.

It is extremely difficult, at times, to differentiate drug eruptions from toxic eruptions due to other causes as the skin picture is that of sensitivity with no specific characteristics indicating bacteria, food or drugs as causative agents. After the diagnosis of toxic eruption has been made, a detailed history and careful physical examination, when indicated, is required to place the condition in its proper nosological classification.

With a few exceptions, drugs produce non-characteristic dermatoses which may be erythematous, erythymato-papular, urticarial, vesicular and bullous. The type of eruption in each individual case is usually uniform but, as with quinine, may be multiform. The same drug may produce different types of eruptions in different individuals. Individual susceptibility to a drug is usually necessary to cause an eruption and this susceptibility may be hereditary. More frequently the eruption follows the phenomenon of anaphylaxis.

Arsenic. Arsenic is one of the most common causes of drug eruptions and may follow medicinal therapy or result from ingestion and absorption of even minute quantities in food, the arts and industry. Fortunately, arsenic, which in the form of Fowler's solution or the solution of potassium arsenite, is no longer considered a panacea for all cutaneous eruptions and its diminishing empirical use is reducing the incidence of arsenical intoxications. It is important,

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as with all drugs, to know the early symptoms of arsenical poisoning and to immediately discontinue its use. A resume of the cutaneous arsenical reactions which may occur in the treatment of syphilis will also summarize its toxic symptoms in whatever manner administered.

Therapeutic shock or the Jarisch-Herxheimer reaction is produced chiefly by the arsphenamines in the treatment of syphilis and consists of a flare-up of manifestations of the disease following a large initial dose. It is due to an irritative reaction to an increased liberation of toxins by still living spirochetes or to protein decomposition products and endotoxins resulting from their destruction. The reaction occurs eight to twelve hours following the injection and may be accompanied by fever.

The nitritoid crisis is an acute vascular reaction to the arsphenamines and is an expression of idiosyncrasy or hypersensitivity. It has a superficial resemblance to the reaction produced by amyl nitrite and, at the time of injection or within five or ten minutes is indicated by a diffuse erythema or suffusion, acute edema, laryngeal stridor and loss of consciousness. The patient's entire arm should be observed while injecting neoarsphenamine with any increased redness of the skin an immediate sign to discontinue the injection.

The ninth day erythema is a morbiliform and scarlatiform erythema closely resembling measles and scarlet fever which appears eight to nine days following the first injection of neoarsphenamine. It is attributed to the impaired elimination and retention of the phenol portion of the arsphenamine molecule.

The non-specific cutaneous reactions to arsenic may be the result of acute intoxication due to one or more large doses or to smaller doses in a highly susceptible individual and of chronic intoxication for small doses over a prolonged period. The onset of either is usually initiated by pruritus, particularly of the trunk, palms and soles, and the patient should be questioned repeatedly regarding increased itching. The skin becomes roughened and an erythematous rash, usually commencing on the lateral surfaces of the trunk, may become generalized. It is not uniform and is accompanied by redness, pain and swelling of the palms and soles, edema of the eye-lids and results in fine desquamation or an acute exfoliative dermatitis. Rarely the eruption may be vesicular, bullous, pustular and even gangrenous.

The skin lesions following chronic arsenical poisoning may be erythematous, keratotic especially of the palms and soles, pigmentary and may produce hyperidrosis, disorders of the nails and herpes zoster. Occasionally epitheliomata follow arsenical intoxication and are usually added to the hyperkeratosis. Arsenical pigmentation is a characteristic symptom occurring in patches appearing as reticular mottling due to enclosed areas of normal white skin. It

also tends to darken normally pigmented areas. The skin is dry, harsh and of increased thickness.

Chronic arsenical poisoning due to contacts from food, the arts and industry is becoming increasingly important and, in many instances, is the explanation for "eczemas" of eight, ten or more years duration.

Quinine and Quinine Derivatives. Quinine is a frequent and, because of its wide use, an important producer of intoxications. Its commonest type of eruption is a scarlatiform erythema which disappears on pressure. Urticaria, papules, vesicles, bullae, petechiae and other purpuric lesions occur. At times there may be a desquamation resembling that seen following scarlet fever. The lesions sometimes persist for weeks and months and can be exacerbated by emotional excitement, fright, etc.

Patients generally are well aware of their idiosyncrasy to quinine as contact with hair tonics, shampoos, cough mixtures, etc. even in minute amounts produce their symptoms. It is important for physicians to question all patients before administering quinine in any form.

Symptoms produced by cinchona and cinchona alkaloids resemble those following quinine. Cinchophen and cinchophen derivatives, which are also known by their proprietary names of "atophan" and "novatophen," in addition to producing erythematous, urticarial and acute exfoliating skin eruptions, are frequently extremely toxic in small doses given for very brief periods with fatal termination in approximately one-half the cases reported. Several patented medicines contain cinchophen and deaths have been reported following their use.

Bromides. Bromides are one of the few drugs which produce characteristic eruptions known as bromadermas. They may appear after one or two large doses or after the drug has been used over a prolonged period and are apt to persist a considerable period of time after it has been discontinued. The most common type of bromide eruption, the bromacne, consists of papular and pustular acne-like lesions located over the face, chest, shoulders and legs. Another variety consists of peculiar raised, crusted, granulomatous masses, variously sized, rounded or irregularly outlined lesions, reddish-brown in color and studded with minute pustular points. Bromides have been prescribed by the unwary physician to relieve the discomfort and pain from the granulomatous lesions produced by this drug with the establishment of a vicious circle. Non-characteristic eruptions as a vesicular rash simulating chickenpox, urticaria, bullae, furuncles and carbuncle like lesions also occur as a manifestation of bromide toxicity.

Iodides. The iodides are a frequent cause of drug eruptions due to their common use and because a large number of individuals are hypersensitive to them. The lesions closely resemble those produced

by the bromides with the most common acniform or furuncular in type involving the face, neck and shoulders. Nodular lesions may suggest syphilitic gummata and, if potassium iodide is being administered, its dosage may be increased with an aggravation of the eruptions. Vesicular and bullous lesions, which are peculiar to the iodides, are situated on erythematous bases and present dark centres resembling smallpox. These are usually situated on the face, neck and hands and, when the ruptured bullae are replaced by soft vegetating lesions, they may resemble pemphigus vegetans. The mucous membranes may be involved with vesicular and condylomatous lesions or excoriations over the tongue, palate, fauces and gastrointestinal tract. If the eruptions are extensive, they are usually associated with other symptoms of iodism as coryza, pharyngeal catarrh, gastrointestinal irritation and sometimes marked rise in temperature.

Barbital and Barbital Compounds. Barbital and its compounds may produce generalized erythematous or local fixed eruptions. The generalized eruptions are usually morbiliform and scarlatiniform in character with occasionally bullous and erosive lesions on the buccal mucosa and can be accompanied by fever. Medinal, allonal, phenobarbital, veronal, luminal, dial, ipral, amytal, nembutal, etc., are proprietary barbital compounds which are familiar products to the laity and should be considered in determining the source of toxic eruptions. Also, they should be prescribed with caution as sedatives and hypnotics for any acute dermatitis as they may increase or augment the eruption.

Phenolphthalein. The characteristic phenolphthalein eruption consists of erythematous plaques followed by pigmentation. These are termed fixed eruptions as the lesions occur in the same sites each time the drug is taken. Vesicles, erosions or superficial excoriations, when they occur, are usually located in the mouth or on the skin of the genitals. The promiscuous use of patented and proprietary laxatives should be discouraged as many contain phenolphthalein.

TREATMENT.

After the diagnosis of a drug eruption has been established or suspected, the treatment is largely symptomatic. The causal drug must be discontinued at once. Saline cathartics, alkaline diuretics and forced fluids should be instituted. Sodium thiosulfate in one gram doses intravenously followed by intravenous calcium medication, if indicated, is the recognized method for treating arsenical intoxications. The intravenous administration of large quantities of decinormal saline solution benefits iodide and bromide eruptions. Concomitant systemic disturbances as hepatitis, nephritis, etc., when they arise, are serious and usually require hospitalization and appropriate intensive medication.

Local medications are prescribed to increase the comfort of the patient and usually have no effect upon the subsidence of the eruption.

They may consist of calamine and zinc lotion, applications of olive oil, dusting with powders, colloidal baths, etc. Continuous saline dressings benefit nodular and granulomatous lesions produced by iodides and bromides. The resistance of the skin to bacterial infections is usually lowered during and following these eruptions and suitable antiseptic washes, ointments and dressings should be instituted when indicated.

(*Illinois Medical Journal*, March 1937.)

Extracts.

MASKED SINUSITIS AS A CAUSE OF OBSCURE FEVER

ARTHUR R. SOHVAL, M.D., AND MAX L. SOM, M.D., *New York. Archives of Otolaryngology*, January, 1937.

Nine cases are reported with fever from one week to two and one-half years duration; etiology unknown. Local symptoms were practically absent; constitutional symptoms were present, which tended to more diagnostic confusion. The ages of the patients varied from nine to forty-two years, with the majority in the early decades.

Some of the previous diagnoses on these patients were: infectious mononucleosis, rheumatic fever, bacterial invasion of the blood stream, subacute bacterial endocarditis, carbuncle of the kidney, epidemic encephalitis and endemic typhus fever.

Most confusing of the symptoms were chills, lymphadenopathy and splenomegaly.

The rhinologist must be particularly alert when examining a patient of this type for according to the author, many times the findings are practically nil. The usual signs and symptoms such as streaks of purulent secretion in the regions of the natural openings of the sinuses, tenderness in the region of the infected part and polypoid degeneration of the turbinates were seldom found in the cases reported.

Transillumination of the antrum is listed as a valuable aid to diagnosis but not entirely dependable.

Pathologic and roentgenologic findings do not always show a reciprocal relationship.

The author places his chief reliance for diagnosis on irrigation with a sterile, warm, saline solution. He likes a Yankauer cannula; preliminary cleansing is done with suction. Sometimes the exudate obtained is small in amount because the membrane has become so thickened that the capacity of the sinus is markedly reduced; the

amount obtained depends also on the time when the irrigation is done.

Intranasal and roentgenographic examination and translumination may be negative and irrigation yield quite a large quantity of pus. *Staphylococcus aureus* was the most frequent organism found on culture.

If repeated irrigations do not clear the antrum of the infection, then an intranasal antrotomy is done.

In ethinoiditis the author uses vasoconstricting nasal sprays and steam inhalations in treatment.

In all the cases reported, except one, headache was a symptom which the previous diagnosticians had regarded as accompanying the febrile state, rather than considering it as a symptom of a possible sinus infection.

TUMORS OF THE HAND.

BY MICHAEL L. MASON, M.D., F.A.C.S., *Chicago, Ill. Surgery, Gynecology and Obstetrics*, February 1937.

This very fine essay is in my judgment quite characteristic of the good work being done by the Drs. Kanavel, Koch and Mason. The author points out that the hand is the site of a great variety of tumors, many quite rare, some appearing almost exclusively on this extremity, and still others which are common to all regions of the body. He also points out that while most tumors of the hand are benign, there are a few of them which present simple therapeutic problems.

Some tumors require a long tedious dissection and the resulting defect left after removal often requires an extensive plastic operation consisting of a full thickness skin graft or pedunculated flaps.

1. **GANGLION:** The author points out that the site or occurrence of this tumour is: first, dorsal carpal region; second, volar surface of the wrist; third dorsal surface of the fingers and finally within the substance of the tendons. The author prefers surgical removal of these tumors taking pains to remove the tissues from which the ganglion springs. He prefers a transverse incision for the removal of ganglia.

2. **EPIDERMOIDAL CYST:** The epidermoidal or implantation cyst is most frequently found on the volar surface of the hand and fingers. The tumor is made up of a cavity filled with cholesterol and horny debris surrounding a wall of epithelium. It is believed that the tumour may be either congenital or traumatic. Treatment: complete excision.

3. **SEBACEOUS CYST:** True sebaceous cysts of the hand are quite rare and are probably in reality epidermoids.

4. **XANTHOMA.** The true nature of this tumor is not known. It is made up of variably sized lobules of yellow, orange, brown and gray tissue bound together by fibrous septa and surrounded by thin but definite capsule. Microscopically, the tumors contain four types of cells; giant cells of the epulis type containing from two to several hundred nuclei, spindle cells resembling fibro-blasts, larger round cells, and finally the foamy cell, a larger polyhedral cell with one or two pyknotic nuclei and a pale vesicular cytoplasm.

Treatment: Complete surgical removal

5. **FIBROMA:** These may be superficial, subcutaneous or deep.

6. **LIPOMAS:** Of the hand. These are not frequently found on the hand. They may be superficial or deep. They may produce symptoms according to their locality and size. They may be very easily removed or may be quite difficult if rather large and deeply situated.

7. **TELANGIECTATIC GRANULOMA:** The exact etiology is not known. It was formerly thought to be due to botryomycotic infection. It has marked tendency to hemorrhage and the granulomatous cap differentiates it from the ordinary nevus and angioma.

Treatment is complete removal.

8. **SUBUNGUAL TUMORS:** These are both benign and malignant. The subungual melanoma or the "melanotic whitlow" is one of the most frequent. About fifty per cent of the cases presented a history of injury six months to a year preceding the tumour. Others began as a mole which may remain unchanged for years and may without any evidence undergo malignant changes. Finally there is presented an ulcerating process which lifts up the skin and the nail and eventually replaces the nail bed with a black fungating ulcer. The best treatment is surgical removal and the removal of the axillary lymph glands. Some cases have survived as long as four years.

9. **SUBUNGUAL EXOSTOSIS:** Quite frequently are seen on the foot. It is rarely on the hand. Treatment is removal with the least damage to the nail bed.

10. **THE GLOMUS TUMOR:** It is being discovered that this is not a rare tumor at all. It develops from neuromyoarterial glomus which is an arteriovenous anastomosis fairly well supplied with nerve fibers of the skin especially of the extremities. The tumor known as the glomus tumor is an enlargement of this structure and it is a question whether it is, in fact, a true neoplasm. Following trauma or more frequently without such a history, the patient complains of attacks of pain, confined at first to the finger or the finger tip, often without any evidence of trouble; finally a bluish fleck or nodule is noticed under the nail. At this stage pain tends to radiate up the arm.

Treatment: Removal of the tumor.

11. METASTATIC TUMORS: Of the nail bed are of great rarity. The author presents a picture of one, a chronic epithelioma in a male with a tumor of the testis.

12. CARCINOMA: Most frequently located on the dorsum. The majority are squamous cell lesions. Most give some history of some irritative factor; exposure to irradiation, radium, sunlight, scars, chronic infection, chemicals, such as acids alkalis, tar, pitch, gas, grease paint, internal medication, etc.

Treatment: In most cases local excision will suffice. In others, excision followed by skin graft and the more advanced, amputation with dissection of epitrochlear and axillary glands.

13. CHONDROMA: This tumor usually occurs on the shaft of the metacarpal or phalanx. The patient is usually under thirty years of age. The tumor is usually removed from the surrounding bone by curette. X-ray findings are quite definite and help to differentiate the tumor from the giant cell tumor. Likewise the X-ray differentiates bone cyst, sarcoma, metastatic carcinoma and myeloma.

Treatment: Consists of complete removal followed by cauterization of the cavity with Zenkars solution or fifty per cent zinc chloride.

14. PERIOSTEAL TYPE OF CHONDROMA: As the name implies this tumor is attached to the periosteum and may invade the cortex.

15. GIANT CELL TUMOUR: This tumor is usually met with in the metacarpals. It may be confused with chondroma. X-ray easily distinguishes it from the enchondroma. The giant cell tumor has a peculiar soap-bubble appearance in that numerous trabeculae run through the tumor and divide it into many small translucent areas.

Treatment: Is that of chondroma.

16. ANGIOMA: Classification: Angio-blastic, telangiectatic, cavernous and vessel type. The treatment of each of these groups is discussed in detail.

17. CONGENITAL LYMPHANGIECTASIS: Treatment is quite unsatisfactory though the Kondoleon operations had been used with some success.

18. TUMORS OF THE PERIPHERAL NERVES: These tumors are not as rare as formerly supposed. They may assume many different forms. Care must be exercised in removing tumors of this type so as to preserve all other structures if possible.

Malignant tumors of the peripheral nerves must be removed widely. Amputation is not infrequently called for.

COMMENT: Anyone interested in surgery of the hand should read the above abstracted article. It is one of the finest and best written articles I have ever accounted.

THE DIFFERENTIAL DIAGNOSIS OF ECTOPIC GESTATION BY PERITONEOSCOPY.

By ROBERT B. HOPE. *Surgery, Gynecology and Obstetrics*,
February 1, 1937. Pages 229 to 235.

There is a brief discussion of the difficulties of diagnosis in ectopic gestation.

"Many cases of intra-uterine pregnancy that have been 'spotting' or bleeding, accompanied by some pain in the lower abdomen, have been subjected to a laparotomy because the physician felt that this was the safest procedure. It is in these particular instances that we feel peritoneoscopy is of value; for by this procedure we have a method of actually seeing the uterus, fallopian tubes, and ovaries. This procedure is done under local anesthesia and requires but twenty-four hours of hospitalization. Should the peritoneoscope determine that the patient has intra-uterine pregnancy, the danger of aborting is less likely than following a laparotomy. The patient may return home for expectant treatment, with a saving of several weeks of hospitalization for post operative care and of much discomfort, as well as a saving of money. If, on the other hand, an ectopic gestation is seen, immediate laparotomy is done. Both the physician and patient are thus saved the time, worry, and possible risk of delay by indecision".

The technique of peritoneoscopy is carefully given and ten case histories are presented to show the value of the procedure in this field.

Case Report.

STABWOUND OF THE STOMACH

A CASE REPORT

HERMAN F. BURKWALL, M.D.

Nodoa, Hainan.

Stabwounds of the abdomen are not uncommon in the Orient. For the most part they are either very superficial, the victims having succeeded in warding off the blow with his arm or by some other manoeuvre, or they are very deep and penetrate the intestines at several points. Occasionally one sees a case where there has been no perforation, but one of the more solid viscera has been wounded. This case is presented for two reasons. It illustrates the ease with which such an injury can be missed and second it is a report where the stomach was injured in a rather uncommon position.

H. S. H. was admitted to the hospital at about 9-30 p. m. with the following story: Two hours earlier he was riding to his

high school in the perfectural city. When his rickshaw reached within a few hundred yards of the city limits the coolie stopped, forced the student from his rickshaw, reached behind the cushion seat, drew a bayonet and stabbed him. The student was left on the roadside for dead. He was found here about an hour later by other students. On arrival at the hospital the patient was in a comatose condition but could be roused with difficulty. There was a great deal of dried blood on his clothes especially at the site of the wound. The wound was an incised one, about two inches long over the ninth costal cartilage on the right side, close to the junction with the eighth. It extended diagonally downward ending three inches from the midline and one half inch below the costal border on the right side. Physical examination showed a tall, well nourished boy about eight. teen years of age, apparently in coma, though he could be roused with difficulty. With the exception of the wound described above, he was in good physical condition. Heart and lungs were both normal.

On admission to the hospital an emergency operation was ordered, preparation for which included a low saline enema. When this was attempted the nurse reported that straining caused a great deal of air and bloody fluid to be expelled from the mouth of the wound. The fluid was frothy, like soapsuds the nurse reported. Morphine gr. $\frac{1}{4}$ and Atropine gr. $\frac{1}{150}$ were given hypodermically for sedation and the operation performed at 11.25 p.m. two hours after admission or approximately four hours after the injury was inflicted.

Operation. The wound was extended in its diagonal direction for another three inches. Exploration along the course of the wound showed that the costal cartilage had been cut diagonally through to the peritoneal lining. Probing revealed that there was no opening in the immediately subjacent peritoneum. The patient was under a very light anaesthesia and sudden straining caused more fluid to be expelled from the wound. As the direction of flow was apparently from the region of the xyphoid a second incision was made at right angles to the original. Through this incision the stomach was examined. A small perforation was found almost exactly in the midpoint of the lesser curvature on the anterior surface. This perforation was large enough to admit the tip of the little finger. From this wound blood was flowing. This was dark purplish color and contained small clots. On the cut surface a small artery was ligated and the wound was then closed with a purse-string suture and invaginated with two layers of sutures, black linen thread was used. The peritoneum was then closed with number two chromic catgut. The skin was closed with black linen thread.

Postoperative care consisted of twice daily subcutaneous injections, of 5 per cent Glucose in normal saline solution 1000 cc per time, for three days. Proctoclysis of 5 per cent Glucose additional, on the

second postoperative day. Four cc hot tea was given every two hours by mouth on the third postoperative day. On the fourth day one ounce of milk, tea or pureed congee was added every two hours. Thereafter a bland diet was instituted as tolerated by the patient. At no time was there any interruption with regularity of defecation. There was some stitch infection present on the sixth postoperative day. The sutures were removed on the 11th post-operative day and wound edges kept approximated by sterile adhesive strips. The patient left the hospital on the forty-fourth postoperative day with the wound completely healed, very little scarring present and no evidence of any gastric distress.

Comment. If it had not been for the fact that the straining had caused this expulsion of gas and fluid, one might easily have closed the wound after an exploration had revealed no apparent opening in the peritoneum. The direction of the blow, the evidence that an attempt had been made to ward off the blow, all contributed to make the incision diagonal in character and thus allow the tissues to return to their original position and conceal the site of injury to the peritoneum. The patient was fortunate that only a small puncture wound was made into the anterior surface of the lesser curvature of the stomach and no further injury was received either in the stomach or other viscera.

(Chinese Medical Journal, March 1937).

Medical Notes and News

RECEPTION COMMITTEE OF THE XIV ALL-INDIA MEDICAL CONFERENCE—MADRAS.

Dear Doctor,

I have the pleasure to inform you that the XIV All India Medical Conference will be held in Madras during the latter half of December '37 (the probable dates being 25th to 27th).

As you may be aware, many subjects of vital importance to the Medical Profession in India, and the general public, such as Medical relief, Health and Sanitation etc. will be discussed at this Conference.

A Scientific Section will also be organised, where purely professional and scientific papers will be read and discussed. May I request you to co-operate with us and contribute papers to this section?

A Medical Exhibition will also be organised for the occasion. I would request you to make the local firms, interested in the sale of

Foods, Drugs, Patent medicines, Hospital requisites, Medical publications. Health and Sanitary wares and such other commodities of public and professional use, take advantage of this opportunity to exhibit and advertise their products before the Medical Profession. The Stall rental will be very moderate to enable every firm to take full advantage of the offer.

I shall also thank you to give wide publicity to the Conference. The schedule of fees, as per Conference rules, is given below.

Arrangements will be made for the accommodation and boarding of the delegates

Delegates or members, desiring to move any resolutions, are requested to send copies of the same to the general Secretary as early as possible.

I hope this appeal will meet with ready response from you and your friends and I can assure you that all of you will find the visit to our City very interesting, instructive and useful. If you or any of your friends would like to have any further information, I would only be too willing to furnish them.

Thanking you in anticipation of your kind co-operation,

Yours Sincerely,

U. KRISHNA RAU.

General Secretary,

XIV All India Medical Conference.

SCALE OF CHARGES:

Members of the Reception Committee:—All medical Practitioners possessing registrable qualifications can join the Reception Committee on payment of Rs. 10, which has been fixed by the Reception Committee, as the fee for its membership. Members of the Reception Committee are entitled to attend all the sections of the Conference. (This fee does not include the charges for Boarding and Lodging.)

Delegates: All medical practitioners possessing registrable qualifications will be entitled to be delegates of the Conference on payment of certain scales of fees. They will be entitled to vote and take part in the Conference. Those medical practitioners who are already members of the Indian Medical Association directly or through its branches, will have to pay Rs. 5 each as delegation fee and those medical men who are not members of the Indian Medical Association will pay a delegation fee of Rs. 8 each.

Besides the above, those who do not want to be delegates of the general conference may be delegates of the scientific section only on payment of Rs. 5 each and take part in the proceedings of the scientific section. *Bona fide* medical students shall also be entitled to be visitors to the scientific section as student visitors on payment of Rs. 2 each, as admission fee, but shall not be allowed to take part in the discussion.

Scientists who are not medical men will also be entitled to be delegates and take part in the scientific section on payment of a delegation fee of Rs 5 each. Remittances can be made to the General Secretary 323, Thambu Chetty Street, Madras.

THE TINNEVELLY DISTRICT MEDICAL ASSOCIATION.
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"Very few stations in the South are so favourably situated as Courtallam which has a fine scenery, an excellent climate and famous water-falls attracting large number of people from far and near"

said Lt. Col. T. S. Shastry, I.M.S., D.M.O., Tinnevely in the course of his address to the members at a meeting which was held on 30th July 1937 at the Travancore Dewan's Bungalow Courtallam, very kindly placed at the disposal of the Association for the day's function. Dr. A.L. Ananthanarayana Iyer, M.B.B.S., Asst. Surgeon, Govt. Hospital, Tenkasi, was mainly responsible for the excellent arrangement, made for the boarding and other conveniences of the members.

The meeting began at 11 a.m. under the presidency of Lt. Col. T. S. Shastry, I.M.S., when Dr. K. Rama Iyer, M.B.B.S., (Andhra), read the minutes of the last meeting held at Papanasam on 26-6-'37 which were adopted.

Resolutions (1) touching the demise of Dr. M. L. Kamath, M.D., retired Civil Surgeon and Dr. B. G. S. Acharya, M.B. & B.S. (Madras), D.O. (Oxen), F.R.C.S. (Edin.), Professor of ophthalmology Lucknow University and (2) congratulating the Hon'ble Dr. U. Rama Rao, on his election as President of the Madras Legislative Council, the Hon. Dr. T. S. S. Rajan, L.R.C.P. (London), F.R.C.S. (England), on his acceptance of the office of the Minister for Medicine and Public Health, and Dr. A. Lakshmanaswami Mudaliar B.A., M.D. (Madras), F.C.O.G. (London), on his appointment as Principal, Madras Medical College, were unanimously passed having been moved by the President.

Dr. P. S. Srinivasan, Sub-Assistant Surgeon of the Govt. Headquarters Hospital, Palamcottah, read out clinical notes on interesting cases which were operated and treated at the Govt. Headquarters Hospital, Palamcottah.

Dr. A. L. Ananthanarayana Iyer, M.B.B.S., exhibited two very obscure cases of nervous disease of (a) Chlora and (b) Morvan's disease. On these cases there was keen discussion.

Dr. J. J. Joseph, L.M. & S., the Chief Leprosy Officer of the Presidency spoke on the diagnosis and treatment of Leprosy.

After discussion Lt. Col. T. S. Shastry, I.M.S., summed up the salient and important features of all the cases and thanked the guests for their presence and fellowship. Dr. Natesan of Madura thanked the Tinnevely District Medical Association for their kind invitation and hospitality, and very much appreciated the cordial fellowship and instructive nature of to-days' gathering and meeting and applauded the Tinnevely District Medical Association for leading in this line. The President also thanked the Dewan of Travancore for his readiness and kindness in placing the Bungalow at their disposal. Dr. A. L. Ananthanarayana Iyer and his colleagues were also thanked for the organisation of the function in such a splendid manner. Thereafter an excellent dinner brought the happy gathering to a close.

HEALTH EXHIBITION.

Under the auspices of the Tinnevely District Medical Association a Health Exhibition was held at the Vallangapuli village under

the presidency of Dr. K. Narayanaswami Iyer, L.M.&S., Civil Surgeon, Tuticorin. In proposing Dr. Iyer to the chair Lt. Col. Shastri referred to the beauties of Courtalam as Sanatorium and its growing popularity. Inter alia, he observed that the existing arrangement for bathing at the falls left very much to be desired. He said that persons who resort to the falls stand quite close during their bath, so much so that in the case unhealthy and sickly persons their contagion spreads easily to others standing near them with the result that the beneficial effects of the bath are partially neutralised. He further observed that the tank-like pit adjoining the falls whereto all the water from the falls finds its way is a sink of impurities. Persons of all classes wash their clothes in the pit apart from drinking the water therefrom. These, he said, are calculated to breed diseases. The need for a stricter enforcement of sanitation was also stressed by Colonel Shastri in the course of his speech. He said that the falls and the vicinity should be maintained with due regard to the principles of sanitation, so that they may not be a source of infection to the vast people that frequent the falls. He appealed to the Panchayat Board for taking necessary steps in this direction, and to the residents to urge the Government to do the needful, to maintain the bathing place and its vicinity in a sanitary condition. He said that a special Law may have to be passed (1) creating a Sanitary Authority with numerous 'Sanitary Teachers', 'Sanitary Constables' and a 'Sanitary Magistrate' to teach sanitation, to detect the polluters and to punish them promptly and effectively (2) to organise a drainage system and (3) adequate number of urinals and latrines and (4) to supervise the whole system, as also (5) to provide funds for the above organisation.

Rao Sahib C. N. Krishnaswami Naidu Garu, the Deputy Superintendent of Police, Courtalam, declared the exhibition open; and in doing so he made particular reference to the proposal now under examination for the enforcement of Brothel's Act at Courtalam. The Health Inspector Mr. K. V. Sessa Iyengar of Tenkasi took those present round the exhibits explaining to them the purport of each exhibit. The audience contained a large number of School teachers and children. The pleasant function came to a close late in the evening.

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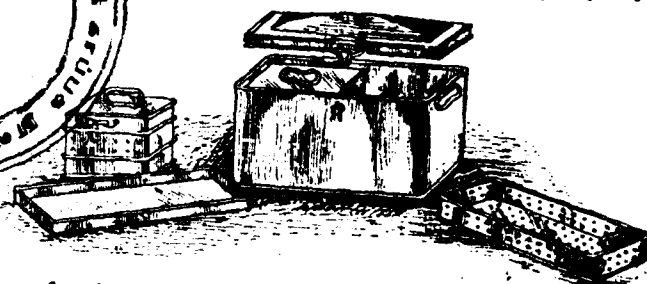
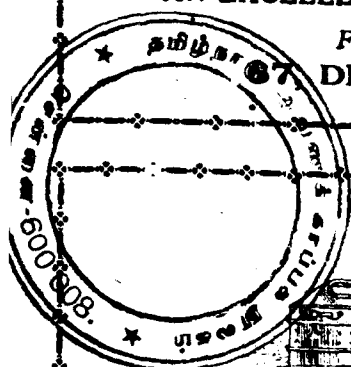
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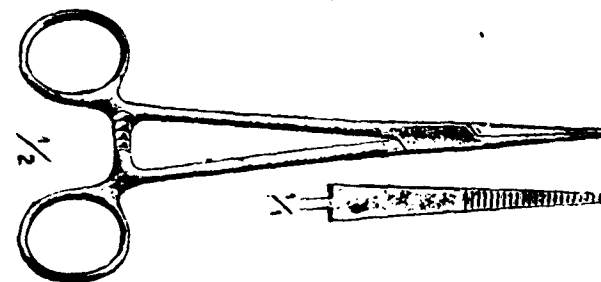


Fig. 3010.

Fig. 3010. Tonsil artery Forceps Berkett's as used in General Hospital. Steel nickel plated.

Fig. 3011. Tonsil artery Forceps Berkett's Stainless Steel.

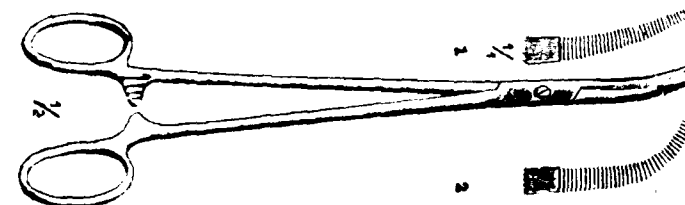


Fig. 3012.

Fig. 3012. Tonsil artery Forceps curved on flat, 1 or 2. Steel nickel plated.

Fig. 3013. Tonsil artery Forceps curved on Flat, 1 or 2. Stainless Steel.

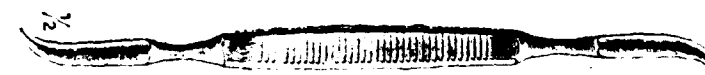


Fig. 3014.

Fig. 3014. Tonsil Dissector, Durham, fine double ended, Steel nickel plated.

Fig. 3015. Tonsil Dissector same as above, Stainless Steel.

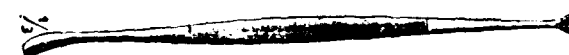


Fig. 3016.

Fig. 3016. Tonsil Dissector and pillar retractor, Steel nickel plated.

Fig. 3017. Tonsil Dissector and pillar retractor, same as above. Stainless Steel.



Fig. 3018.

Fig. 3018. Tonsil Dissector Forceps, Waugh's—Steel, nickel plated 8" long.

Fig. 3019. Tonsil Dissector Forceps, Waugh's—Stainless Steel 8" long.

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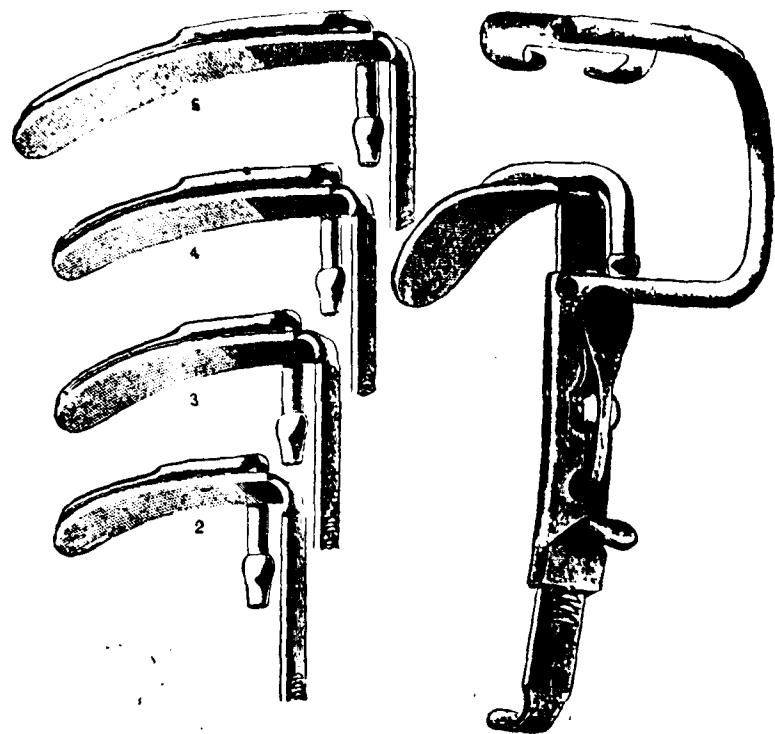


Fig. 3020.

Fig. 3020. Mouth Gag and Tongue Depressor, Boyle Davis—combined, complete with five assorted tongue Depressors, each fitted with tube for Anæsthetic Vapour, as used in General Hospital. Steel heavily nickel plated.

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