

general proposition, to which there is no exception, that, in severe strains, effusion is most surely checked, and once it has occurred, its absorption is most rapidly promoted, while pain is most effectually relieved, by pressure and immobilization. It is as true now as when VELPEAU taught it, that "compression is the sovereign resolvent in contusions with infiltration and swelling."

While cooling and discutient lotions have been generally used, Mr. ASTON KEY recommended *hot* applications, the directions for which are given, as follows, by Mr. JOHN GORHAM (*Lancet*, July, 1876): For a sprained ankle, take a piece of lint of such size that, when folded thrice, it shall be four inches wide and twenty inches long—sufficiently wide and long, in other words, to completely envelop the joint; let this be soaked in boiling water, squeezed out gently, and applied to the limb. Next, take a piece of thin gutta-percha shaving or oiled silk, two inches wider than the folded lint, on which it is laid, with a margin an inch wide above and below, which lies in contact with the skin and prevents evaporation. Lastly, over the whole apply a bandage, and tie the limb on a pillow with two pieces of tape.

PROFESSOR JAMES SYME, F. R. S. E.

The means that afford most relief from the pain directly caused by the injury, consist in the application of *hot fomentations* (see page 35,) and the preservation of perfect rest. The ecchymosis is often considered a warrant for leeching or cupping; but the effused blood cannot be withdrawn in either of these ways, and must be removed by absorption. If symptoms of inflammation come on, blood must be extracted freely, and the other means against inflammation of the joint be employed. After the injured part has ceased to be painful on pressure and motion, and remains merely swollen and stiff, it ought to be supported by a bandage, and have some stimulating ointment or lotion applied to promote absorption. Blistering, warm pumping, the vapor-bath, friction, and gentle, but frequently-repeated, exercise, are useful at the same time and with the same view.

DR. RICHARD O. COWLING, OF KENTUCKY.

The safest treatment of sprained ankle is by immobilization. The first thing to be done is to elevate the limb upon a pillow; next to bathe the feet and joint in *hot* water, which will generally be found

more effectual than cold. It should be as hot as is at all tolerable to the patient, and should be poured upon the ankle while the foot is still elevated and extended over the foot of the bed. During this affusion, which should be steadily continued for half an hour, the foot and ankle are to be gently stroked upward, increasing the pressure as it can be endured, and the joint moved carefully. It is more than probable that the patient will shrink from this portion of the treatment, but a speedy relief from his pain generally re-assures him as to its efficiency.

Comparative ease having been established by this means, immobilization of the joint is best secured by the many-tailed or strip bandage covered by a roller. The strips made of muslin are wet and applied from the roots of the toes to a point eight or nine inches above the ankle. These are covered with a flannel roller carried well up the knee.

The patient thus rendered comfortable may be left, with direction to take an opiate if he is nervous and sleepless, and to remove the bandage if this from any cause induces or aggravates the pain. After four or five days the bandages may be removed and replaced with a plastic apparatus.

SYNOVITIS (ARTHRITIS.)

MR. RICHARD BARWELL, F. R. C. S., LONDON.

In the chronic strumous synovitis, the so-called "white swelling" of the knee-joint, this author (*British Medical Journal*, October, 1874,) believes in the stimulating treatment by means of iodine injections:

284. R. Tincturæ iodinii, f. ʒ ss.
Aque destillatæ, f. ʒ j. M.

This method of using the drug is simple: a syringe with a very fine needle should be used, and care must be taken not to inject into the cavity of the joint, but into the thickness of the morbid tissue. Injection must not be employed when any active inflammatory process is going on; the temperature of the joint must be not at all higher, or but a portion of a degree higher, than that of the other side. There must be either no pain, or only that dull aching which is rather a

sign of fullness of veins than of arterial hyperæmia. Starting of the limb, the symptom above all others which shows that the cancellous stricture next the articular lamella is inflamed, shows also that the time for this treatment has passed by, unless such starting be only occasional, and not severe.

When, in any case, all the favorable conditions are present, he punctures the skin in the softest and most prominent parts of the tumefaction, making from two to four punctures, as the case may demand or permit; into each of these punctures he injects about five minims of the fluid, withdrawing the needle a little as the piston descends. An elastic bandage is applied after the operation.

DR. C. FITZHENRY CAMPBELL, OF SACKVILLE, N. B.

Our author, referring to the practice of Dr. MORITZ, of Coblenz, (*Medicinische Zeitung*, No. 26, 1872,) of employing nitrate of silver, either in solution (ten grains to the fluid ounce) or in substance, as a local application in cases of articular effusions, whether resulting from gout, rheumatism, scrofula or wounds, says that for more than twenty years past, he has been in the habit of applying a solution of this salt (three to eight grains to the fluid ounce) to almost all painful swellings of the joints, whether resulting from blood disease or mechanical injury, with the happiest results. (*The Lancet*, July 1st, 1871.)

DR. P. J. MANEC, OF PARIS.

285. R. Ammonii chloridi, $\bar{\text{z}}$ iijss. M.
Aque (or vini rubri,) Oj .
Compresses, immersed in this solution, are to be applied to the knee, in recent cases.

The articulation is to be moderately compressed, and the bandages kept moist with the solution. Afterwards, recourse is had to flying blisters, if necessary.

DR. METZGER, OF BONN.

The treatment of both acute and chronic synovitis, except that at the hip-joint, is treated by this practitioner with *massage*. The operator sits in front of his patient on a low stool, and the part to be operated on is first shaved and anointed with perfumed lard. The frictions used are divided into two classes; the first, passing from side to side

(horizontal frictions); the second, passing from below upward in the line of the limb (vertical frictions.) The applications vary in force, according to the effect which he desires to produce, and are made, not only upon the joint itself, but also upon the adjacent unaffected tissues. By means of the *horizontal frictions* the skin is moved about over the fasciæ and ligaments, and the superficial vessels are acted upon, partly by the direct application of mechanical force, and partly by the indirect influence of the vaso-motor nerves. The circulation of the blood is thereby increased; and where there is a tendency to venous stagnation, the bluish color is removed, and the skin assumes its natural appearance. The *vertical frictions* are made in the direction of the circulation of fluid in the venous and lymphatic vessels, and promote the flow within them. By a combination of these two methods of manipulation, the one stimulating the action, and the other propelling the contents of the blood-vessels and lymphatics, absorption is necessarily increased.

The operator rubs strongly whenever indurations, infiltrations, or effusions are to be dealt with, and follows from below upward the course of the lymphatic vessels in the extremities. When, for instance, the knee-joint is the subject of treatment, he works across the joint with the fingers of one hand, on both sides, below the patella, pressing inward with more or less force; while the fingers of the other hand work in the same manner, upward along both sides of the patella, over the capsular ligament, or any ligament which is felt to be swollen. This process is continued from three to five minutes. He then grasps the joint with his right hand and, pressing firmly, rubs upward over the patella, as high as the superior insertion of the investing ligaments. This is repeated a number of times, varying according to the circumstances of the case. The applications are repeated once or twice every day.

PROFESSOR JAMES SYME, F. R. S. E.*

This eminent author urges very forcibly the claims of the *actual cautery*, in a condition of articular disease characterized by very distinct features dependent upon ulceration of the cartilages.

These features are—intense pain, aggravated by pressure or motion, and most severe during the night, not confined to the joint affected,

**Surgical Works*, Philadelphia, 1866.

and being generally also referred to the one beyond it, or a more distant part of the limb, which is weakened in its muscular power, disposed to oedematous effusion, and altered in its sensations, being usually hotter or colder than natural, and occasionally feeling as if benumbed. These symptoms may exist for weeks or months with little alteration except in regard to their degree of severity; but if the derangement from which they proceed be allowed to pursue its course without interruption, are almost sure, sooner or later, to terminate in ankylosis or suppuration, with caries of the bone affected. It is in this case that the actual cautery, if properly applied, before suppuration has taken place, may be regarded very nearly, if not absolutely, a certain remedy.

The cautery should be heated to the utmost degree producible by a common fire, and be in size not less than a pigeon's egg, in order to retain its temperature sufficiently. A common poker will answer in case of an emergency. The eschar may in general be about two inches in length, and should be made on each of the two sides where the articulation is nearest the surface. The pain is much less than might be anticipated, and may be readily prevented by chloroform, which for this purpose, need not be employed to its full effect, since the early stage of unconsciousness will protect the patient from any unpleasant recollections of the procedure. A poultice should be applied until suppuration is established, and then some unctuous application, unless it is desired to check or stop the discharge, when the water-dressing may be substituted.

DR. THEODORE BILLROTH.

With regard to the treatment of that form of chronic synovitis called tumor albus, or white swelling (fungous and suppurative articular inflammation,) our author states that the general treatment should be more prominent, the more chronic and insidious the disease. Of course, it should be directed against any dyscrasia which can be detected.

The local treatment is the more effective the more acute the stage. Painting the part with tincture of iodine, flying blisters, wet compresses, gentle compression with adhesive plaster, are all valuable. Or the part may be rubbed with a strong salve of nitrate of silver:

286. R. Argenti nitratis, $\frac{\text{ʒj.}}{\text{ʒj.}}$ M.
Adipis, $\frac{\text{ʒj.}}{\text{ʒj.}}$
For an unguent.

These measures should be accompanied by *absolute rest* of the joint.

If the course of the disease is entirely chronic, and does not yield to these remedies, then we must have recourse to the maintenance of continued moderate pressure on the swollen limb by means of a firm bandage, such as a plaster splint, which, at the same time, keeps the joint perfectly quiet in a suitable position. Before applying the plaster dressing, we may rub the limb with mercurial ointment, or apply mercurial plaster, or even rub in the above-mentioned nitrate of silver ointment. When fistulæ have formed, we may still use the plaster splint, simply slitting it up and putting in new wadding; or one can use splints with openings made opposite the fistulæ.

The old methods by the antiphlogistic treatment and cataplasms, still employed by some, should be discarded. Amputation of the thigh, for white swelling of the knee, should now hardly ever be required; this is to be attributed, more than anything else, to the treatment of the disease by *the plaster bandage*, as above described, a plan chiefly introduced, and persistently carried out, by Professor. VON LANGENBECK.

In some subacute cases, *cold* is an excellent application. ESMARCH claims very favorable results for persevering treatment with *ice*, applied by a bladder on the knee, continued for a long time.

The persistent application of *heat*, accompanied by the careful application of cataplasms, compresses wet with warm water, or warm baths, is indicated when the course of the disease is exceedingly torpid, when bad-looking, fistulous ulcers, deficient vascularity of the granulation, or bad, thin secretion, seem to indicate a moderate irritation of some kind. However, when high temperatures are applied, they should not act too long, or their effect will be lost, and there will be complete relaxation of the parts, instead of the fluxion it was proposed to excite.

JAMES E. GARRETTSON, M. D., D. D. S.

Acute synovitis, if disassociated with cachexia, may commonly be quickly resolved into a subacute condition. If purely local, the attention required will be one vigorously antiphlogistic. A cure, almost magical in the rapidity with which it results, is sometimes secured by cauterizing the surface with the solid *nitrate of silver*. When cachexia

is present, local sedation must be combined with constitutional specific medication.

A common treatment for an acutely-inflamed joint, might be laid down as follows:

Put the feet and legs in water as hot as can be borne; administer a full saline cathartic or a diuretic; apply a lead-water and laudanum lotion to the inflamed part; bleed with the lancet, or locally, with leeches; depress the circulatory force by the administration of arterial sedatives, and restrict to a low diet; use counter-irritants; any or all of these means being employed, according to the indications of the case, an exception to the use of the pediluvium existing in inflammation of the inferior joints.

The inflammation, having its acuteness thus broken, is often brought to a happy termination by painting the joint with the tincture of iodine, or with diluted Monsel's solution of the persulphate of iron; and, afterwards, if necessary, enveloping the parts in a lead-and-laudanum lotion.

Where structural change is feared as the result of effusions, mercurials may be administered and pushed to the least perceptible evidence of their impression.

When, in defiance of treatment, suppuration occurs in a joint, the pus formed is to be got clear of as speedily as possible. To effect this, it is, perhaps, not possible to adopt a better plan than the subcutaneous valvular puncture, to be made by using a delicate tenotome. At this stage, we may also resort to direct stimulation, with prospects of good results; stimulating embrocations, hot and cold douches, strapping, painting, passive motion, or even injections into the joint itself, may save the articulation when other means fail.

Professor GUBLER employed ten parts of iodoform to twenty of sulphuric ether and twenty of alcohol. When dissolved, the liniment should be applied to the diseased joint, by means of a pencil. The parts should then be covered with a piece of oiled silk. For the same affection, Dr. COTTLE dissolves iodoform in chloroform.

IX. LESIONS OF THE ORGANS OF CIRCULATION.

Aneurism—Lymphangitis—Nævus—Phlebitis—Varicose Veins.

ANEURISM.

J. M. DA COSTA, M. D., PHILADELPHIA.

This author states there are but two remedies in which he has any faith in the radical treatment of internal aneurism. The first is *iodide of potassium*. It should be used boldly. The following recipe was given continuously for ten months, with the most marked beneficial results, in a case of chronic aneurism:

287. R.	Potassi iodidi,	gr. xv.	
	Syrupi tolutani,		
	Aquæ,	āā f. ʒj.	M.

For one dose, thrice daily.

This remedy does no good excepting early in the disease.

The second remedy referred to is *ergot*. It is not yet known definitely how much good it really does. Some very excellent results have been obtained by LANGENBECK. It may be given internally or by hypodermic injections.

In a disease so dangerous, so almost necessarily fatal, the importance of a knowledge of any remedy which seems to exert an influence is apparent. As both the iodide of potassium and ergot can be tried without injury to the patient, it is the duty of every practitioner, in cases of internal aneurism (in which, of course, surgical treatment is out of the question,) to try one or the other of these drugs.

The following formula may be used for the hypodermic injection of ergotin:

288. R.	Ergotinae,	gr. ij.	
	Spiritus vini rectificatae		
	Glycerinae,	āā f. ʒss.	M.

Five minims (equal to gr. $\frac{1}{8}$ of ergotin) for a dose. This is the formula of EULENBERG.