

which retains a pale pink color; this lighter shade with its shape differentiating it from the diphtheria bacillus. Again, a yeast has been encountered the ascospores of which retain the red color. Here it is not especially confusing, except when the cells are very small, when they may be mistaken for coccoid forms of *B. diphtheriae*.

Advantages observed:

A single stain, easily prepared, and with good keeping qualities; rapidity of staining—one-half to two minutes; good contrast colors, pale blue and bright red, a contrast especially well seen when white artificial light is employed; specimens will not overstain even if left for a half hour.

Over 600 specimens have been stained, 300 containing *B. diphtheriae*, and 300 negative specimens, containing simply the various bacteria present in the throats at the time the cultures were taken. Much work has been done checking the results obtained with this stain against those obtained with preparations from the same cultures, stained with the various accepted polar granule stains—Loeffler Alk. Methylene-blue, Neisser, Modified Neisser (with Grams solution and neutral red).

In each case the above stain has indicated the presence or absence of the *B. diphtheriae* uniformly with these recognized stains.

This stain is not applicable to smears taken directly from the throat, it failing to stain the polar granules, the organisms when present staining homogeneously a very pale blue.

After about eight hours' incubation at 37.5°C. upon Loeffler's blood serum mixture, many of the organisms show small polar granules, each taking the stain well; the number and size of granules increasing rapidly as the time is lengthened, so that at the end of sixteen to eighteen hours well formed granules appear in practically all the organisms, except the last generations, which stain very palely blue, and are rather hard to distinguish, so that at first glance every organism seems to contain one or more granules.

Cultures which have been kept in the la-

boratory for weeks, although the typical bacilli have disappeared, show in smears made from them numbers of round oval or irregular granules, these taking the stain typically—a bright red. One culture, kept at laboratory temperature for nine weeks, the vegetative properties having almost disappeared so that it was started growing again with difficulty, showed these granules splendidly.

Sufficient work has not been done with *B. pseudo-diphtheria* and other diphtheroids to report upon any differential properties which this stain might possess.

AUTHORS' ABSTRACTS.

Medicine.

Two and a Half Years' Experience with the Phenolsulphonephthalein Test. By Samuel Logan, New Orleans, La. *New Orleans Medical and Surgical Journal*, February, 1915, pp. 686-697.

In a series of 425 cases Logan reports his findings, which are very favorable as to the value of this method. Great emphasis is laid on the need for exactness. He has found the best results by the use of intravenous administration with an all-glass solid piston syringe.

Where the need of an exact knowledge of the kidney functional capacity is the greatest, this test has been found of greatest reliability and value. His best results have been obtained in the uremias, nephritis, and surgical conditions dealing with the genito-urinary system. In prostatic cases, each one should be tested frequently, prior to operation, and the latter ought only to be done after the kidneys have recovered to the highest degree of function, as indicated by the phthalein elimination.

In surgical conditions he sums up his experiences in a series of axioms as follows:

- (1) Obstruction to the outflow of urine causes more or less delay in appearance of the phthalein and decrease in the output in proportion to the degree of obstruction.
- (2) Percentage of output is not necessarily in proportion to the pus or infection present in the kidney urine, unless an obstructive condition be present.
- (3) Renal tuberculosis causes a decrease in output out of all proportion to the extent of kidney area involved. This is a strong diagnostic point.
- (4) Reflex (sympathetic) interference of a diseased kidney with the output of its healthy mate has not been observed.
- (5) Neoplasms and cysts affect the output only from the degree or cortex involved or from the production of obstruction.

Some Clinical Observations of Mouth Infections as a Source of Systemic Diseases. By L. P. Robertson, Marlin, Texas. *Texas Medical News*, January, 1915, pp. 283, 284.

We have observed for many years, in an empirical way, the relation of mouth infections to systemic diseases through noting the steady and in some cases rapid recovery of patients from a general debility, which seemed almost cachectic, after extracting all teeth affected by pyorrhea, alveolar abscesses and caries. Without any further treatment than the elimination of the focus of infection, these patients would return to normal health, gaining fifteen or twenty pounds in six months. It remained, however, for the recent bacteriological studies of Hartzell, Billings, Mayo, Rosenow, Streit and others to show that these infections may invade the whole economy, producing serious sequela.

The systemic diseases which may be caused by mouth and naso-pharyngeal infections, as we now understand this question as an etiological factor, may be grouped under the broad heading of pyemia, bacteriemia, septicemia, arthritis, synovitis, pernicious anemia, endocarditis, toxic neuritis, pernicious rashes and allied affections.

With this formidable array of diseases which may be caused by these toxic poisons in the oral cavity the importance of careful inspection of the mouth, nose and throat in diagnosis is readily recognized.

Pyorrhea alveolaris and alveolar abscesses are the pathological conditions in the mouth most responsible for harboring these toxins.

Emetin has merit in the treatment of pyorrhea, but is not a specific. It is indicated in the primary stage. The treatment indicated in the advanced stages of pyorrhea, where we have an osteomyelitis is curetting and autogenous vaccine.

Subacromial Bursitis. By Sterling O. Fields, Newport News, Va., *New York Medical Journal*, January 23, 1915, pp. 163, 164.

The condition is frequently overlooked. The symptoms and signs admit of ready diagnosis though the three stages of Codman are seldom clear out and distinct, and the sign of Dawbarn is often lacking. The etiologic importance of direct shoulder blows is questioned. Though falls are an important factor their influence on the shoulder is discounted. One unconsciously thrusts out his hand or elbow always to catch the shock of the impact. The force travels up the arm and damages the bursa between the acromion and the major tuberosity. Excessive use of the shoulder is a factor in a small proportion of cases. The writer states in his experience infection has furnished a percentage of cases nearly as high as trauma. Dissatisfied with the comparatively lengthy period of disability resulting from the usual routine treatment of subacromial bursitis, the writer decided to employ a plan somewhat similar to that now used by many authorities in joint inflammation. After aseptic preparation the skin is nicked with a scalpel under local anesthesia, an aspirating needle introduced into the sac with arm at the side, and the bursal fluid, if any, is withdrawn. Through the same needle two to four cc of five per cent iodoform-glycerin emulsion is introduced, the needle wound sealed with collodion and gauze, and the arm slung across the chest with the elbow supported. There is almost immediate relief of pain as a rule. In

twelve days gentle massage of the shoulder is begun with gradual passive and active movements. In three days more the sling is permanently removed and the patient encouraged to move the shoulder freely, and the eighteenth day sees the patient ready for work. So far, the results have been most satisfactory.

Use of Raw Starch in Treatment of Diabetes Mellitus. By E. B. Knerr, Kansas City, Mo., *Missouri State Medical Association Journal*, February, 1915.

A safe form of carbohydrate is raw starch, either as prepared artificially from the various grains or as it occurs directly in uncooked vegetables. The starches become harmful for diabetics when cooked. In the raw state the starches are digested so slowly, chiefly in the intestines, that the patient can assimilate them without being overwhelmed. Even raw potatoes may be eaten by the diabetic without harm. Of course, vegetables, such as sweet potatoes, beets, yams, parsnips or others rich in sugar, must be avoided even when raw.

Treatment consists in putting the patient to bed and allowing him nothing whatever to eat except a dram of raw starch stirred in a glass of water every two hours, until his sugar disappears. This may usually be accomplished in twenty-four to seventy-two hours. There is no danger of coma as the raw starch clears up the acidosis; and the patient does not suffer greatly with hunger, as there is considerable nourishment afforded by the raw starch. Starch inhibits acidosis. Whiskeys and wines are worse than useless, as they usually contain more or less sugar.

When the sugar has disappeared the diet is gradually increased, first by allowing green foods, then meats, eggs and cheese, sparingly. The patient may go to work if he is at all able, but every week or two he should stay in bed a day and eat nothing but raw starch stirred in water. No effort should be made toward increase in weight. The thought should rather be for well-being and well-feeling, with the ability to work without the old diabetic tire. This is better than gain in flesh.

The Treatment of Diabetes Mellitus and Its Underlying Principles. By Jacob Gutman, Brooklyn, N. Y., *The Post-Graduate*, February, 1915, pp. 110-124.

Medications are of no value unless for specific purposes or of special use in the control of pernicious influences from the cerebro-spinal system. The dietetic treatment is the only one. The amount and variety of proteins and fats have to be regulated in accordance with severity of the case and the direct demands made upon the organism. The quantity of food must calorimetrically suffice not only to replace the energy expended in the ordinary processes of metabolism, but also to replace the losses incurred by the excreted urine energy material, the sugar. Measures must be taken to curtail the general metabolism of the individual and to restrain thus the activity of the sugar producing mechanism of the body. The possibility of coma must not be underestimated, yet true acidosis must be differentiated