to the base of the corsets and kept up by the insertion of light steels gives enough pelvic support to afford relief. Such belts are made more efficacious by attaching a firm pad in the back so as to make pressure over the upper part of the sacrum.

I have cited Goldthwait in detail in order to aid in placing this important matter before the profession at large and to stimulate investigation into a class of ailments which, although common, has not hitherto been recognized. The practitioner may not feel inclined himself to undertake treatments so decidedly orthopedic in their nature, but it is at least important that he should discern these affections as a cause of backache, and be able intelligently to secure the coöperation of a specialist in bringing relief to a patient who must otherwise continue to suffer indefinitely.

The distressing post-operative backaches can be avoided by keeping the limbs and the body slightly flexed during an operation, by using pads and cushions under shoulders and knees, and, above all, under the small of the back. Anyone who will try lying on a hard flat surface without an anesthetic will find that it is a severe, almost unbearable strain to remain in the position for half an hour or more.

## COCCYGODYNIA.

**Definition.**—Coccygodynia is a term coined by Sir James Y. Simpson, to designate several affections whose most marked characteristic is pain in and about the coccyx. The absence of any knowledge as to pathological conditions associated with the affection permits the grouping under one head of several troubles whose chief feature is pain in a common situation. As a clinical complaint, coccygodynia presents definite and clear-cut characteristics.

**Early Cases.**—The condition was first recognized by Dr. J. C. Nott of Mobile, whose original publication on the subject appeared in the *New Orleans Medical Journal* for May, 1844, under the title "Extirpation of the os coccygis for neuralgia." Nott's description of the clinical symptoms is lively and the theories he advances to explain the pain are ingenious. The patient was twenty-five years old, unmarried, and what we should, to-day, call a neurasthenic. Nott says "her condition was a truly pitiable one. Her general health was completely shattered and her strength exhausted with dyspepsia, constant nervous headaches, menstruation regular but difficult, excruciating pain at the point of the coccyx, pains in the uterus, vagina, neck of the bladder, and back. The most prominent symptom was the exquisite pain at the point of the coccyx, which became intolerable when she sat up, walked, or went to stool, or, in short, when motion or pressure were communicated to it in any way." This condition had followed a blow on the coccyx four years previously from which the patient recovered after several weeks' suffering, the pain not returning until about ten months before she was seen by Dr. Nott.

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As medicines had already been faithfully tried, Nott at once proposed extirpation of the bone as the only chance of relief. The operation was performed, of course without an anesthetic, through a vertical incision about two inches long. The bone was disarticulated at the second joint for about two inches, separated from its muscular and ligamentous attachments, and so dissected out and removed. Nott observes that the nerves were exquisitely sensitive and the operation, though short, was, he says, "one of the most painful I ever performed." The last bone of the coccyx was carious and hollowed out to a mere shell. Nott further remarks, "this case is novel and instructive—I know of no one like it on record. No doubt many similar cases have occurred and their true nature been overlooked. I have another at this moment." The result of Nott's treatment was an entire recovery.

I have thus particularly described this early case, both because I wish to do credit to an able surgeon, one of the most original of our American pioneers, and because, aside from the antiseptic precautions which would now be present, the operation, as done to-day, does not differ in any important particular from its prototype in Nott's hands sixty-four years ago.

Sir James Y. Simpson first disseminated a knowledge of coccygodynia and he also operated for its relief by cutting the ligaments of the sides of the coccyx. His earliest publication on the subject was in the *Medical Press and Circular* for July, 1859; a full account is also given in his "Clinical Lectures on Diseases of Women," published in 1863. Simpson's publications were followed at this time by others on the same subject, but of late the affection has fallen into undeserved neglect, little attention being paid to it except in quack advertisements, as can be seen by looking through the Index Medicus for the last five years.

**Etiology.**—Coccygodynia is peculiarly a disease of women; I do not know of any disease, affecting an organ common to both sexes, which is so exclusively feminine. Beigel, as long ago as 1875, noted that it occurred in children.

Many cases begin with a fall upon the coccyx or a blow in which it is struck; in most of my cases such a history was given, though no fracture, dislocation, or necrosis of the bone was found at operation. A common source of injury to which patients frequently attribute the trouble, is horseback riding; one of Simpson's cases suffered intensely for years after a fall from a horse. Pregnancy and labor are important factors, though not so influential as Scanzoni believed, for he states with emphasis that thirty-four cases observed by him had all borne children. But in seven successive cases which I operated upon at the Johns Hopkins Hospital, three were unmarried, one had never had a child, and in not one of the other three was there a history of an instrumental or even of a severe labor.

The close analogy of coccygodynia with rheumatic pain in the fascia and muscles above, must be borne in mind, for it is within the range of possibility that the affection may prove to be one, not of the bone, but of the tendinous structures. Rheumatism has been assigned as the cause in many

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instances, and in one of Simpson's cases the pain began from sitting upon the damp ground.

Coccygodynia is often associated with uterine and other pelvic ailments, although I do not believe there is any direct causal relationship, what connection exists being probably an indirect one through the general impression made upon the health and the consequent neurasthenia. Proctitis and various rectal complaints occasionally cause disturbances similarly referred.

Nott called the affection "a neuralgia of the coccyx" and M. Graefe comes back to the same interpretation, declaring after a careful study of his cases, all of whom had borne children, that he does not believe it is due merely to the trauma of labor, but that consecutive changes in the coccygeal plexus are to blame which are analogous to intercostal neuralgia, but as little capable of macro- or microscopical demonstration. Seeligmüller, in Eulenburg's Real Encyclopedie, under the caption "Coccygodynia," follows Graefe's idea and gives the affection an equivalent name, "Neuralgie des Plexus Coccygeal."

I have cited these different opinions as to etiology, because here as elsewhere, the rational treatment must go hand in hand with our convictions as to the cause. In a general way it may be said that nervous people are most subject to the complaint, but it not infrequently appears in those who show no other sign of a neurosis.

**Symptoms.**—The essential symptom of coccygodynia is pain in and around the coccyx. Its intensity varies all the way from a mere suggestion or a dull aching, to excruciating suffering, requiring morphin for its relief. The pain may be intermittent, but it is usually continuous, with an intensity which varies greatly from day to day. The onset is usually gradual, but not by any means always. The act of sitting down or rising always exaggerates the pain, and in some cases sitting becomes unbearable; so that it has been called "the sitting pain." In one of my patients this annoyance was met by having a hole cut in the chair upon which she was accustomed to sit. But it is not always possible to provide such a convenience, and the sufferer may be driven to sit uneasily, first on one hip and then on the other. Occasionally in walking each step brings on a twinge of pain and the patient is gradually reduced to a sedentary existence.

The act of defecation is almost always associated with increased discomfort. Most patients with coccygodynia find the trouble worse in pregnancy. In one of my cases it was severe at such times, but almost absent in the intervals.

The causes at work in a given case of coccygodynia cannot, as a rule, be ascertained. It is certain that the majority of cases are not dependent upon abnormal length or mobility of the coccyx, nor upon fractures, dislocations, or anchylosis or necrosis of the bone. Anchylosis is too common a condition, for Hyrtl, in a collection of one hundred and eighty coccyges, found there were thirty-two in which a luxation and a consecutive anchylosis was present.

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Nott, the pioneer in this field, was inclined to lay great stress upon mechanical conditions.

**Diagnosis.**—Coccygodynia, in its milder grades, is quite common, but the severe cases are rare. Although little attention is paid to it by the profession, it is astonishing how well known it is to the laity. There is scarcely a community without its well-known sufferer from "elongated spinal column," "fractured or dislocated coccyx," or some similarly named malady; this is probably due largely to the dissemination of quack literature. The condition is readily discovered on examination, in which the patient should lie in the dorsal or the left lateral posture; the index finger is then introduced into the rectum, and the coccyx grasped between the thumb and finger. Movement of the coccyx often reproduces the pain exactly. A further thorough examination must be made of the pelvic organs in order to exclude disease there.

**Treatment.**—The treatment of a coccygodynia will depend upon the severity of the case. In the lighter forms much can be accomplished by mild measures, such as proper hygienic and medical remedies, while the severer cases, as a rule, yield readily to surgical treatment. In addition to these measures, faradization may be used. By this means, Graefe (*Zeitschr. f. Geb. u. Gyn.*, 1888, vol. 15, p. 344) cured all his cases, five of them in from five to eight, and the sixth after twelve sittings. One pole is applied to the sacrum and one to the coccyx and the surrounding tissues. Seligmüller put one pole in the vagina, and so cured a violent case of twelve years' standing with a single treatment. Bearing in mind the close analogy of this disease to the lumbago group of affections described in the preceding section, a thorough-going massage treatment ought to be faithfully tried before resorting to surgery.

If these gentler means fail to persuade the pain to let go its hold, then surgery comes in as a boon, as the operation of removing the coccyx is neither difficult nor dangerous.

Simpson's operation of election consisted simply in freeing the coccyx from all its muscular and fascial attachments; by this means he cured a number of cases, but it is technically as difficult as and less certain than the removal of the coccyx. In bad cases of coccygodynia, the removal of the coccyx is almost always curative. I relate the following illustrative case: Miss M., age twenty-six, Johns Hopkins Hospital, June, 1899. The patient complained of dysmenorrhea and a severe pain in the coccyx. She came of a healthy, in no way neurotic family, and had always been well up to the time her present trouble began. The dysmenorrhea had been present four years and the pain in the coccyx about one year. Formerly, menstruation had been entirely painless; it was always regular. The pain in the coccyx was associated with a sense of fulness and swelling; since its onset it had grown steadily worse, until it was impossible for her to sit down directly on the bone, and movement of the bowels was extremely painful. The great discomfort constantly endured was gradually producing nervous exhaustion.

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Physical examination showed a well nourished and fully developed woman, with a retroflexed uterus, movable, and normal in size, normal tubes and ovaries. The coccyx was of normal size and position and not very movable; it was, however, exquisitely sensitive to pressure or the least movement. In view of these findings, the cervix was dilated and the uterus suspended, hoping that the relief of the intra-pelvic condition would also relieve the coccygodynia. In this I was disappointed, as she was in no way improved; so I operated again and removed the coccyx. The wound healed promptly, and the operation gave complete relief. The patient married later, has had several children, and remains in perfect health.

Sedatives and analgesics, such as morphin and cocain, ought always to be employed with the greatest care, as they only afford temporary relief and are liable to induce a pernicious habit worse than the disease itself.

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