TRANSACTIONS

OF THE

PHILADELPHIA ACADEMY OF SURGERY

STATED MEETING, HELD JANUARY 7, 1907.

The President, JOHN B. ROBERTS, M.D., in the Chair.

FRACTURE DISLOCATION OF THE ATLAS WITHOUT SYMPTOMS OF SPINAL INJURY.

DR. H. AUGUSTUS WILSON exhibited a man, a railroad brakeman, who fell from a train while it was moving at about ten miles an hour, striking upon his left shoulder and cheek. Fearing that he would be run over he forcibly wrenched or twisted his head and shoulders. He did not lose consciousness. During the first two weeks thereafter he did not manifest any symptoms as a result of the fall except some little soreness over his left malar bone and his left shoulder. Two weeks after his accident he began having dull dragging pains about his neck. He continued his occupation as brakeman without interruption for one year. During this year, with the exception of the first two weeks, he was under the care of several physicians for vague symptoms which were considered rheumatic in character and were not ascribed to the fall. At various times during the year, plasters, liniments and ointments were applied to his neck without apparent effect.

During the next year and a half—that is, up to two and a half years after he fell from the train—he worked about three-fourths of the time. During the several periods when he did not work he suffered with pain in his neck, but was otherwise competent to work. Patient said that the jarring and jolting of the train did not increase his pain. Three years after the accident the pain in his neck became more severe and constant, compelling him to discontinue his work, which he has not resumed up to the present time. The patient states that an abscess of the neck was diagnosticated and an attempt was unsuccessfully made to aspirate it.

A few months later he fell into the hands of an osteopath who told him that he had dislocation of the seventh cervical vertebra, and treated him for thirteen weeks. One of the methods resorted to was to suspend the patient so that his feet did not touch the floor; while in this position the head was forcibly rotated. He states that at one of his examinations quick forcible pressure was made upon the top of his head while he was standing. He immediately dropped to the floor and was momentarily unconscious.

In June, 1905, he was brought to the Orthopedic Department of the Jefferson Hospital. A steel brace was applied to remove the weight of the head from the spine and immobilize the neck. This he has worn constantly until the last two months. He has recently taken off the apparatus for an hour at a time every morning and afternoon, without disadvantage. His present condition is that of a well-nourished white man. The mucous membrane of the mouth is of natural color and appearance. No abnormalities of the superficial or deep reflexes. No disturbance of sensation, or other nerve function. Gait is normal. With the stiff supporting brace removed he carries his head in a somewhat stiff, unnatural manner.

Special Senses.—Eye examination by Dr. Wm. M. Sweet. Pupillary reflexes. Media clear, optic discs clearly outlined, and retinal vessels of normal calibre and direction. No defect of ocular rotations. Other fields of vision show no contraction.

Throat examination by Dr. J. L. Harkness, finds he has a subacute rhinitis, intumescent turbinates, relaxed and injected soft palate, and the pharynx bulges forward below the line of the uvula, apparently narrowing the œsophageal and laryngeal openings. Otherwise the pharyngeal conditions appear normal.

Physical Examination of the Neck.—Inspection from a directly posterior standpoint does not reveal any manifest irregularity. On view laterally, the patient's head is observed to be inclined forward and with the chin elevated apparently in the same position in which it was held by the brace. Surface at the back of the neck is observed to have its concavity posteriorly and an elevation above and below. The Adam's apple is not unduly conspicuous.

Palpation of the tumefaction above referred to shows that it is hard and immovable, not painful on pressure. Pressure in the depression just below the occiput elicits pain, but not of a severe

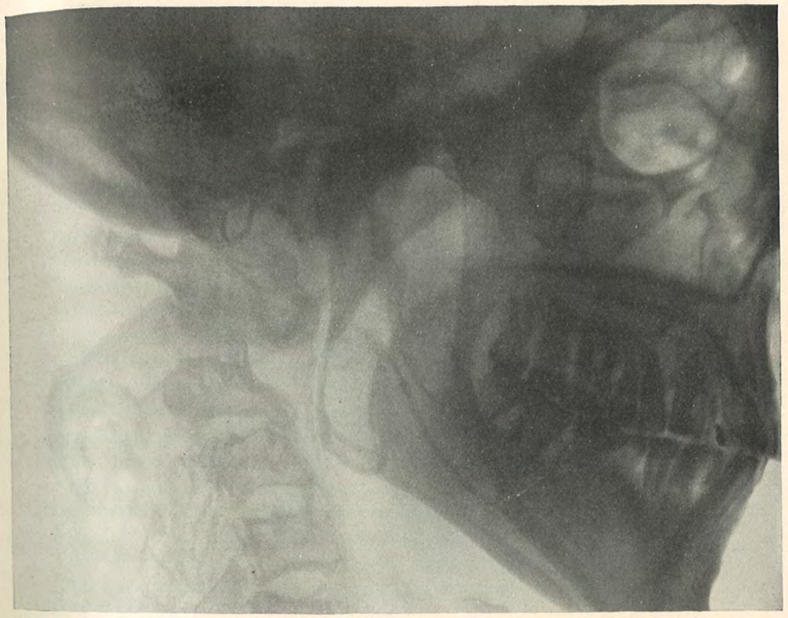


FIG. 1.—Fracture dislocation of the atlas.

type. The guarded manner in which the head is constantly held renders it difficult to determine the amount of motion at or above the seat of the injury. Definite knowledge as to the mobility of the upper spine was not considered of great importance. The risk of subjecting the patient to the accompanying trauma rendered it inexpedient to determine the extent of mobility.

The X-ray plate (Fig. 1) shows a fracture of the odontoid process and a forward dislocation of the atlas, which occupies a tilted position. Until recently the patient was unable to sleep in recumbency, but could do so sitting on a chair with his head forward on a pillow. Occasionally he has difficulty in swallowing because of the mechanical displacement of the œsophagus.

Dr. James K. Young said he had seen a similar case in a child who fell and dislocated the second cervical vertebra. With the injury there was loss of power and sensation in the lower extremities. The remarkable feature in Dr. Wilson's case is the absence of cord symptoms. From the history of the case he would consider it one of spondylitis following injury, this injury possibly being dislocation and spontaneous reduction; now there is dislocation as a result of the spondylitis.

Dr. George G. Ross mentioned a case of fracture of the bodies of the tenth and eleventh dorsal vertebræ and bowing of the spinal column without paralysis. The accident occurred in July; the patient when on a hay wagon catching his head and bending over, compressing the bodies of the vertebræ and springing apart the spinous processes. This formed a distinct ridge over which ran the cord, but there was neither permanent motor nor sensory symptoms. The diagnosis was confirmed by the X-ray.

Dr. Gwilym G. Davis said that recovery from injuries of the vertebræ in the cervical region are more frequent than is generally supposed. He has seen several cases end in recovery even though deformity was marked.

Dr. Wilson, in closing, said the man was very clear in his description of the accident and stated that the symptoms were not such as to demand the care of a physician until after two weeks. The railroad physicians in the relief bureau did not consider the case worthy of attention, hence the symptoms must have been very trivial. He believes the great deformity followed the "osteopathic treatment." The symptoms were so aggravated by it that the man could not lie down, being obliged to sit with his head forward. During part of the time he walked the street

night after night. There probably was some displacement originally, but that method of treatment increased it.

TENDON TRANSPLANTATION.

Dr. Henry R. Wharton exhibited a child aged twelve years, who, when three years of age, had sustained a fall, injuring the spine. Paralysis of the entire left side followed, and the patient was confined to bed for three months. The arm gradually improved, and the function was restored to normal. The leg improved, but with a persistence of muscular atrophy, and an equinus valgum. At the Presbyterian Hospital, in July, 1906, Dr. Wharton had performed the following operation:

The tendo Achillis and peroneus longus and brevis tendons were divided subcutaneously and the tendon or the tibialis anticus was exposed and divided. The tendon of the extensor longus digitorum was next exposed and divided and the proximal end of this tendon was sutured to the distal end of the tendon of the tibialis anticus. To overcome the dropping of the great toe the tendon of the extensor propius pollicus was exposed and divided, and after exposing the tendon of the peroneus tendon it was divided and sutured to the distal end of the tendon of the extensor proprius pollicis. The wounds were closed and the limb put in a position of over-correction in a plaster of Paris bandage. Later, a brace was fitted and the patient was allowed to walk upon the limb.

Dr. John H. Jopson, who assisted Dr. Wharton at the operation, said the patient showed extraordinary improvement, the foot previously being a useless member. He now resorts to this type of operation with a great deal of confidence. The main element of success is the selection of cases. In those with good muscles to utilize for transplantation, the results will be good. If complete paralysis be present, operation will result only in disappointment; those cases should be let alone, so far as transplantation operations are concerned.

RECOVERY FROM SELF-INFLICTED COMPLETE SUBHYOID LARYNGOPHARYNGOTOMY.

Dr. John H. Jopson and Dr. George C. Stout showed a patient recovered from self-inflicted complete subhyoid laryngopharyngotomy. He was an adult aged forty-seven, admitted to

the Presbyterian Hospital three months previously, suffering from shock and loss of blood. Two hours before he had cut his throat, and the wound extended from one sternomastoid muscle to the other, dividing the skin, the subcutaneous and the muscular tissue of the thyro-hyoid space, the pharynx being opened to the full extent of the wound. The epiglottis was cleanly severed at its attachment to the thyroid cartilage, drawn upward and turned backward out of sight. A small piece of the upper border of the thyroid cartilage was sliced off on either side. The false cords were not injured, the weapon having passed just above them. After reaction, which quickly followed, the patient was etherized through the wound in the neck. The epiglottis was drawn downward and forward and sutured to its place of former attachment by three sutures of No. 1 chromicized catgut passed through its entire thickness and through the thyroid cartilage, which was partly ossified. One suture passed through the median line and one was placed on either side. These sutures held the epiglottis in excellent position, and were reinforced by sutures passing through the superficial structures and perichordium. The lateral angles of the wound in the pharynx were then tightly closed by chromicized suture and the entire wound closed by deep and superficial stitches. Following operation, the patient did very well. There was considerable laryngeal irritation for some days, shown by cough and free expectoration of mucus and suppression of voice. The temperature was slightly elevated for ten days. There was a slight superficial suppuration at a couple of points. At no time were there evidences of œdema or respiratory obstruction. Inhalations of benzoin vapor were instituted. There was a gradual restoration of voice after ten days. Twenty-four days after operation it was noted that laryngoscopic examination showed the epiglottis to be in good position as far as its attachment was concerned, and leaning backward somewhat more than normal. The voice was then quite strong and is now normal. Recovery is now complete.

Dr. Astley P. C. Ashhurst said that he desired in this connection to report a case of self-inflicted suprahyoidean pharyngotomy, with fatal result, because it did not seem fair to let it pass unrecorded when the successful case of Drs. Jopson and Stout was being published. On January 5, 1906, Dr. Ashhurst was called to the Orthopædic Hospital to see a nervous patient

who had suddenly gone insane and had produced a large wound in his neck by sawing it with a broken bottle which he had prepared on purpose. Before Dr. Ashhurst reached him, the patient had been given morphin and an intravenous injection of saline solution; and to this treatment it was probably due that he had not died at once. The trachea and larynx were found wagging back and forth in the wound, the patient being speechless, nearly apnœic, and almost exsanguinated. High tracheotomy was immediately performed, and respiration being thus somewhat restored, the wound was examined. It extended from one angle of the jaw to the other, grazing the anterior surface of the larynx, passing between the hyoid bone and the jaw, and opening the pharynx widely between the epiglottis and the base of the tongue. Seven or eight bleeding points were ligated, including the right lingual artery. A nick in the right internal jugular vein was sutured. The right hypoglossal nerve was divided just below the mylohyoid muscle; but as its cranial end could not be found winding around the origin of the occipital artery, search for it was finally abandoned. The base of the tongue was then sutured to the muscular wall of the pharynx with mattress sutures of chromic gut; the depressor muscles of the jaw were sutured to those of the floor of the mouth, and the skin was closed, with drainage from each angle. The next day the temperature was 103 degrees F., and the following day 105 degrees F. By the third day it had fallen to 101 degrees F., and there appeared some hope of recovery. After consultation with Dr. W. J. Taylor and Dr. Morris Lewis, the tracheotomy tube was removed, and the patient in reply to a query said he felt "as fine as silk." He breathed fairly well through the larynx for about fifteen minutes, then became cyanosed and had an attack of coughing. Although the tube was at once replaced, voluntary respiration was not restored. Artificial respiration, and mouth-to-tube insufflation were practised, but fifteen minutes after the heart had ceased to beat the patient was abandoned as dead. This was seventy hours after the operation.

CERVICAL RIB.

Dr. Joseph M. Spellissy exhibted a seventh right cervical rib, with photographs and skiagraphs of the anomaly before its excision, and presented the patient, a girl of twenty years, from whom it had been removed. An accident, a year before the patient applied for advice at the Orthopædic Department of the University Hospital in the service of Dr. DeForest Willard, was followed by deformity of the right shoulder. Examination not only discovered a sternal luxation of the right clavicle, but the presence of a right seventh cervical rib. An X-ray plate made by Dr. William R. Pancoast confirmed the diagnosis. The rib was excised, but not without difficult dissection. The subclavian artery passed over the middle of the cervical rib, resting in a deep groove. The distal end of the cervical rib articulated with the upper surface of the first dorsal rib. This articulation was disarticulated. The artery was dissected free some 2 to 3 inches and looped over the distal end of the cervical rib as an umbilical cord is slipped over a fœtal head. The distal end of the cervical rib was now raised above the artery, freed from attachments, and disarticulated from the seventh cervical vertebra. The subclavian vein was not seen, and no abnormality was noted in the circulation of the right arm.

The specimen was pronounced the most perfect in the experience of Dr. W. W. Keen and of Dr. W. R. Pancoast.

PYRALIN AS A COVERING FOR METAL BRACES.

The use of pyralin dissolved in acetone and painted on stockinette as a fixed dressing by J. K. Young, suggested some years ago to Dr. Spellissy its probable suitability as a covering for metal braces. Its experimental use by Dr. Spellissy had verified his anticipations. He exhibited a spine brace so covered, that had been to Brazil and had required no recoating except where alterations obliged by the growth of the patient necessitated it. The pyralin is applied like paint, with a brush—or preferably by dipping—and in successive coats.

The finish is improved by the rubbing down of each coat with sandpaper and later with pumice stone.

CIRCUMCISION.—A PLASTIC IN CONSTRICTED PREPUCES.

BY OSCAR H. ALLIS, M.D.,

OF PHILADELPHIA,

Surgeon to the Presbyterian Hospital.

THE skin covering the penis differs in many respects from the integument in the other parts of the body. It is thin, elastic, has little if any subcutaneous fatty tissue, is loosely connected with the organ it covers, and at the free end of the penis instead of uniting at the terminus, as is the case with the fingers and toes, turns inward and finally becomes attached to the organ just behind the corona glandis. Thus the glans penis gets two layers, or rather two thicknesses, of true skin. This turning in of the skin serves an important function: it presents an epithelial skin surface to the epithelial surface of the glans penis and, as epithelial surfaces do not ordinarily fuse or unite, a permanent opening is left for the urethral canal to discharge the accumulations of the bladder.

The turning-in of the preputial covering must necessarily make the terminus less distensible than other parts, and it is not uncommon to find the preputial orifice narrowed at birth and resisting efforts at retraction. Some years ago my colleague on the staff of the Presbyterian Hospital, Dr. De Forest Willard, called attention to this narrowing of the prepuce and to the presence around the glans of a secretion that required removal. His article directed attention to a much neglected subject and elicited commendation from sources that would have been supposed to be familiar with the subject.

The importance of attention to the cleanliness of the glans penis while the child is in early infancy is not as generally practised as it should be. Between the prepuce and the glans penis there is at birth some inspissated smegma, and this, if permitted to remain, will occasion irritation that will give rise to uneasiness and repeated attacks of non-specific balanitis.

Hence, as a result, the inner surface of the prepuce and the glans penis becomes inflamed; the epithelial surfaces are covered with granulations, and ultimately the prepuce becomes adherent to the glans. This in itself would not be the source of further irritation were there not imprisoned the old inspissated smegma. The chief collection of this secretion is back of the corona, where it serves the purpose of perpetual annoyance.

I have seen three types of neglected prepuces in the adult. In one instance there was retention of urine. Dr. Roger Keys asked me to see a young man with retention of urine whose constriction would hardly admit a probe the size of a darning needle. When I entered the house I found him in the act of urinating. He was standing erect, leaning against a wall, and flowing from the penis was a fine spray that shot upward and forward for a distance of six or eight feet; the bladder was relieving itself under spasm. In a second case the glans penis had become adherent to the preputial covering and the most careful dissection could not uncover it. In this case the superficial surface of the prepuce was retracted, but in doing this a raw surface was all that was left for the glans. In a third case, epithelioma had resulted and amputation was necessitated, in a case that I had no reason to suspect an impure life.

In many children a marked redundancy of prepuce will be noticed. There is good reason to believe that this is occasioned by the traction the child makes upon the skin in efforts to relieve irritation. A redundant prepuce may resist retraction, it may be constricted and be as mischievous as the constricted and contracted variety.

Circumcision is relegated by works on operative surgery, and by the profession generally, to the class of minor surgical operations, as if it were a matter of so little consequence that it hardly deserved attention. But practical experience has much to say to the contrary. There is scarcely a surgeon of general practice who has not been called upon to patch up and complete the criminal mutilations of incompetent operators.

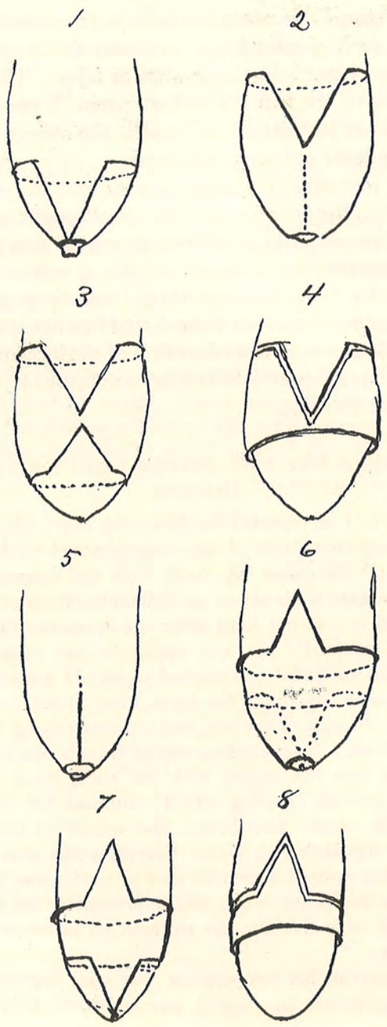
An operation that is very widely practised consists in

obliquely clasping the prepuce just anterior to the head of the glans, and with a single sweep of the knife removing the redundancy. The outer skin covering is now retracted and the inner mucous one trimmed off near the corona and parallel with it, leaving just enough to easily attach the skin flap. This usually results in a comely appearance. After attaching the two surfaces, I usually carefully test the freedom of the preputial covering and often nick the inner coat at its junction with the glans penis, since the least constriction in the mucous layer is apt to provoke swelling.

In all my early operations and in most of the operations I have witnessed, the glans penis is permanently uncovered. Whether this is the best possible result or not I do not know. One thing only I know, that the glans penis is always covered at birth, and it would seem that a hood that partially if not completely covered the organ, and which could be readily retracted for cleanliness, would be nature's model.

In some cases the prepuce is closely drawn over the head of the organ. In such, a simple splitting of both coverings upon a grooved director, from opening to the corona, yields a very satisfactory result. The dog-ears present at first shrink and leave no trace in after years of their early redundancy. The only objection to this operation is that it leaves the glans permanently uncovered, and it is with a view to preserve the original appearance, viz., partial covering for the glans, and at the same time have a retractable hood, that I have been led to contrive and practise the following operation:

Fig. 1 represents three steps in the operation. *First,* circumcision at the extremity of the prepuce. *Second,* making a V-shaped flap extending from the primary circumcision to a little beyond the greatest circumference of the glans, and, *Third,* carrying the incision from the base of this flap around the organ on dotted line. All of this is done in the outer skin covering. Fig. 2 represents the skin retracted and a dotted line extending from the point of primary incision upwards. Fig. 3 represents the effect of slitting up the inner or mucous layer. Fig. 4 represents the inner layer retracted and ready for suturing and the half covered glans penis.



The steps of this operation may be reversed, and instead of making the V-shaped flap in the outer skin layer it may be made in the deeper inverted or mucous layer. The chief difference between the two is that the frenum is not approached in the operation just described, while in the second the circumcision of the inner covering may do so.

Fig. 5 represents the glans covered and two steps in the operation, viz., the primary circumcision through the outer skin layer of the prepuce and an incision through it to a point in the greatest circumference of the glans. Fig. 6 represents the skin retracted and a dotted line extending from the preputial opening back, V-shaped, and the same dotted line extending around the glans. Fig. 7 represents the effect of the incision following this line. Fig. 8 represents the inner or mucous layer reflected and ready for suturing.

REMOVAL OF A KNITTING-NEEDLE FROM AN ABDOMINAL ABSCESS.

Dr. W. E. Lee reported the following case: An unmarried woman, twenty-four years of age, was admitted to the Pennsylvania Hospital December 28, 1906, with the diagnosis of iliac abscess. She gave a history of an indefinite illness of six weeks' duration, and it was not until after the operation that the true history was obtained. In June, 1905, she had reason for suspecting herself pregnant and applied to an old woman for help. With the patient standing, the right knee flexed and the foot resting upon the seat of a chair, and without raising her clothes, this woman took a bone knitting-needle from a nearby table and introduced it into the vagina with the right hand. This was followed by profuse bleeding which continued for several days. There was the normal flow at the next menstrual period, which has recurred regularly ever since. Several weeks after the operation the patient noticed a definite spot of tenderness in the right side close to the pelvic bone, which prevented the wearing of corsets; aside from this she has suffered no inconvenience from the operation.

On admission, her temperature was 99.2 degrees F., pulse 100 and respirations 24. There was a distinct bulging of the

abdominal wall in the lower right quadrant, caused by a firm, tense, intra-abdominal mass and a superficial fluctuating tumor about the size of half a walnut, ½ inch above and ½ inch to the median side of the anterior superior spine of the ilium. This mass was first noticed three days before her admission to the hospital.

General anæsthesia was induced with ethyl chloride and the superficial fluctuating tumor opened, evacuating a few drops of pus. At the bottom of this abscess cavity a hard, sharp substance was found; this proved to be a piece of the bone knitting-needle, 4½ inches in length. The needle came from a small sinus leading down into the pelvis.

A vaginal examination, made three days after the operation, showed a small uterus in the mid position, with the cervix pointing toward the right vaginal wall and the fundus pushed far over to the left side of the pelvis. There were no abnormal openings or scars in the vaginal walls and the cervix was normal except for a thin opaque discharge which escaped through the cervical canal.