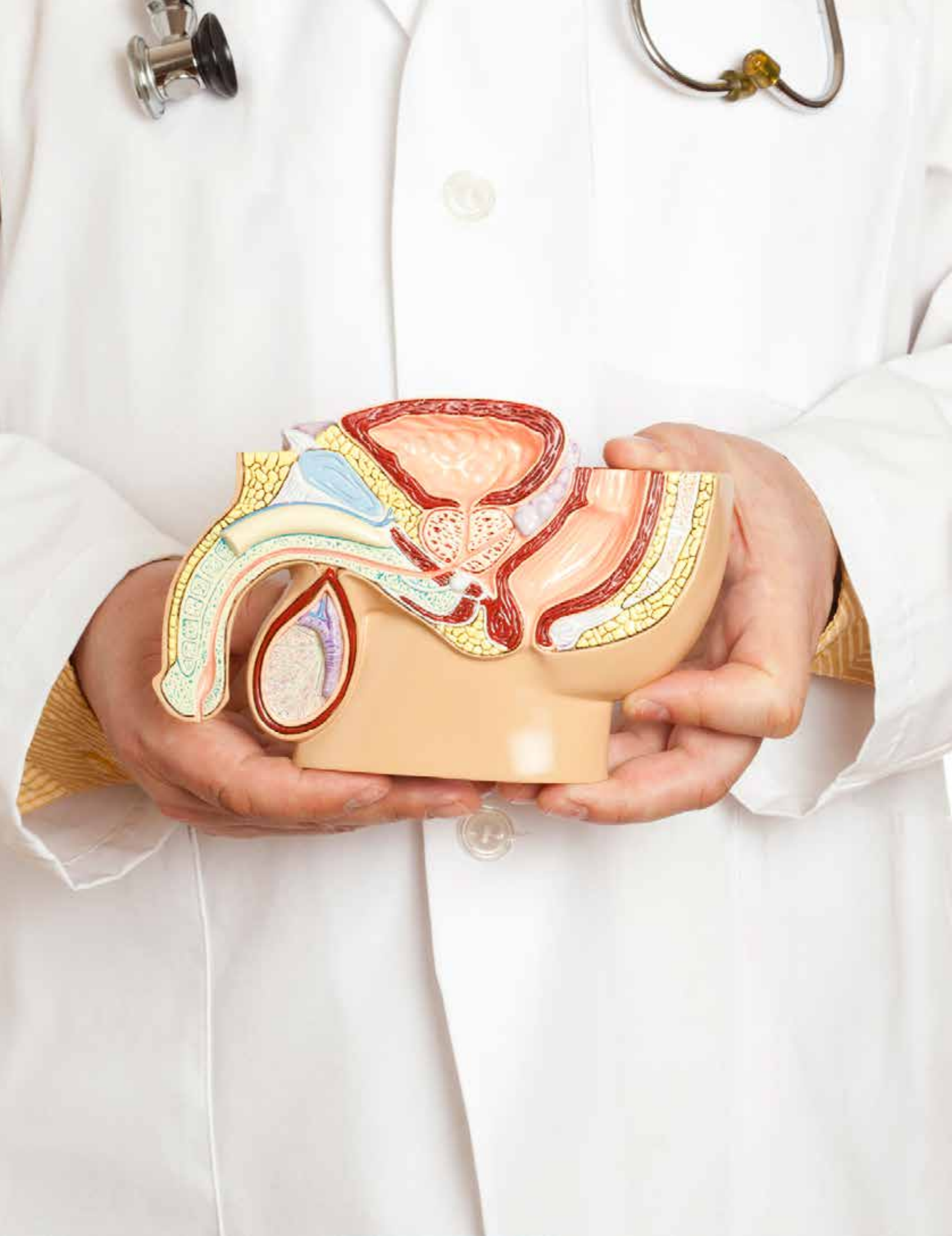

Hypospadias Repair with Bilateral Orchiopexy

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Hypospadias is a congenital disease that occurs in urethral development during weeks 8 to 20 of gestation. Hypospadias affects the male urethra and phallus. It is thought to be acquired genetically due to the imbalance of hormones. Hypospadias causes the opening of the urethra to be on the ventral side of the penis. A penis affected by this condition often will look as if it is bowing downward because of chordee tension. The malformation will make normal sexual intercourse difficult in the future. Hypospadias is classified into three categories: penile shaft hypospadias, coronal hypospadias and glandular hypospadias. Individuals with hypospadias often experience unsatisfactory erections making intercourse difficult. In some males, hypospadias also makes it difficult to urinate due to the position of the urethra and may require those males to sit while urinating, causing identity issues in children.[2]

Cryptorchidism is most often a congenital disease and is usually discovered by the age of one, although it can occur later in life. Cryptorchidism is the absence of the either both or one of the testes in the scrotum. Cryptorchidism usually occurs in children that were born prematurely and most likely is accompanied by an inguinal hernia. The testicles will usually be located in the abdomen or in the groin. Cryptorchidism, if left untreated, can result in cancer and infertility.[2]

CASE STUDY

The patient is a 3-year-old male who has progressive midshaft hypospadias, which was determined at birth. The child has experienced several medical complications starting during gestation. Several maternal factors affected the pregnancy including polyhydramnios, a condition where excessive accumulation of amniotic fluid causes intrauterine growth restriction of the fetus and premature rupture of the membranes. In this case, this condition led to the mother delivering at only 29 weeks of gestation. The infant spent two and a half months in the

LEARNING OBJECTIVES

- Review the instruments and equipment necessary for this procedure
- Identify the special considerations necessary when conducting a pediatric surgery
- Learn about the causes and concerns for patients diagnosed with hypospadias
- Examine the role of the surgical technologist in this procedure
- Outline the surgical steps for the hypospadias and orchiopexy operations

CHART 1 INSTRUMENTS/EQUIPMENT NEEDED
Basic pediatric lap pack
Small basin
4 gowns
Nonlatex gloves for all sterile team members
Blades – safety #15 x 4, V-Lance x 1
Drapes – laparotomy sheet, 4 towels
Dressings and adhesive strips
Liquid adhesive
Diapers x 2
Bacitracin ointment (on head of penis after dressings are applied)
10 ml syringe
Warming device
25 gauge butterfly needle
250 ml bag of 0.9% normal saline
Bag-O-Jet
Water soluble lubricant
Rubber bands
Vessel loops • 4-blue
Sterile marking pen
G-tube
Urethral stent
Electrosurgical pencil with holster, needle tip, and tip cleaner
Bipolar cord for electrosurgical unit
Skin antiseptic solution
Povidone iodine
Specimen cup x 2
Ruler
X-ray detectable sponges
Sponges x 2 packs
25-gauge needle
Sterile towel pack x 2
Suture • 5-0 Chromic P-3 (skin) • 4-0 Chromic P-3 (tacking) • 4-0 Vicryl RB-1 (stet in place) • 7-0 Vicryl (flap) • 4-0 Prolene RB-1 (glans, retraction) • 4-0 Ethibond TF (traction) • 7-0 TG 140-8 (cut in half, used to keep G-tube in place)
Medications • Sterile water • 0.9% normal saline for irrigation
In addition to the supplies, the surgical technologist picked the instruments needed for these types of cases, which included: • Plastics instrument tray • General basic procedures tray • Lacrimal duct probes

newborn intensive care unit (NICU) at the local children's hospital. While in the NICU, the infant developed necrotizing enterocolitis, which was later resolved. He was previously diagnosed with a right inguinal hernia that had been previously repaired and was readmitted to the hospital in 2009 for treatment of meningitis. Most recently, the child was diagnosed with a seizure disorder after experiencing at least one unprovoked seizure. During the patient's last visit with the doctor, human chorionic gonadotropin (hCG) injections began to encourage enlargement of the child's penis. The child's parents have noticed an increase in the size of his penis since the injections where given, although they subsequently noticed that the testes of the child seemed abnormally small and took the child to the pediatrician for assessment. The pediatrician diagnosed the child with a condition called bilateral retractile testes, also known as cryptorchidism and referred him to an urologist. The child seemed to have significant tension in the testicles, with the left testicle suffering more tension than the right. The child's parents were informed that surgery was necessary because undescended testes are associated with an increased risk of genital malignancy as well as decreased sperm and hormone production. The parents understood the risks, benefits and future implications and agreed to proceed with the surgery.[6]

DIAGNOSTIC TESTING

For this case, the patient went through several diagnostic tests including medical history, an ultrasound and a physical. Other diagnostic testing done for a hypospadias, although not done for this patient can include retrograde urethrogram, cystourethrogram, intravenous urogram, MRI and CT scans.[2,6]

The patient's medical history listed several complications due to the premature birth. The patient previously experienced necrotizing enterocolitis (death of intestinal tissue), apnea (sensation of breathing) and tracheitis (inflammation of the trachea which was caused by a bacterial infection), which progressed to pneumonia. Cholestasis is a condition in which the bile flow of the liver is reduced and total parenteral nutrition (TPN) support is a way of getting nutritional by bypassing the digestive system with an intravenous solution. The patient also had bacterial meningitis, which caused the brain to swell resulting in interference with blood flow. The patient has had a history of seizures and bilateral retractile testes, also known as cryptorchidism.[6]

An ultrasound was performed and showed the bilateral lower inguinal testes. The testes were reported to look in normal condition. The patient's liver was also checked with ultrasound. At the time of the viewing, the kidneys appeared

normal and it was noted that the patient had a 5mm gallstone. The patient's physical examination showed the scrotum was well-developed and both testicles were at the level of the pubic bone. When they were brought down to the hemiscrotum level, they experienced significant tension with the left testicle showing more tension than the right. The penis of the child showed a mid-shaft hypospadias with a descent size urethral plate and adequate dorsal hooded foreskin and there was approximately 30 degrees of ventral chordee.[6]

Retrograde urethrogram allows the evaluation of abnormalities in the urethra that can include narrowed areas, strictures, contractions and outpouchings. The procedure lasts approximately five minutes and is performed with the patient in the supine position on an X-ray table. The urethral opening is cleaned and the sterile contrast media is inserted into the urethra. X-rays are taken to record the anatomy of patient.[2]

Cystourethrogram is performed to examine the bladder and the lower urinary tract using fluoroscopy and contrast media. The genitalia are cleaned and the bladder is catheterized so that it can be filled with a water soluble contrast media. The patient is asked to urinate while X-rays are taken to record the process of urination.Intravenous urogram is an X-ray test that takes pictures of the urinary tract. It shows the shape, size, position of the tract and evaluates the kidney's collecting system. Contrast media is injected into a vein in the patient's arm and many X-ray pictures are taken. MRI and CT scans are taken when detailed imaging of the patients' organs is needed. A contrast media is used during a CT scan to make the organs easier to identify.[2]

SPECIAL CONSIDERATIONS

When dealing with pediatric patients, special considerations are required. The room temperature must be raised and appropriate heating supplies must be in or near the operating room. Warm blankets and warming devices are generally used as children have low body mass and subcutaneous tissues. Children may need to be shown the equipment that will be used when they are anesthetized to reduce anxiety. Other types of anxiety reducers for a child include: allowing the child to bring in a favorite toy, being brought in on a wagon, medical staff introducing themselves to the child and allowing the child's parents to accompany him or her in the preoperative holding unit. The emotional needs of a child also need to be considered prior to the operation.[2]

For a hypospadias repair, it is ideal if the patient has not undergone prior circumcision because the foreskin is often used as a skin graft. The surgical technologist, however, must anticipate the possibility of a free skin graft to be used if there is not enough tissue from the existing foreskin. The surgical technologist also needs to anticipate for a meatoplasty and glanuplasty following a hypospadias surgery and have the applicable instruments and equipment available.

PREOPERATIVE PROCEDURE

The surgical technologist checked the case cart and the surgeon's preference cards to make sure that all the equipment, instruments and supplies needed for the operation were gathered. *(See Chart 1 on page 256)*

Once all of the supplies and instruments were placed in the case cart, the surgical technologist verified that all necessary equipment was in the room. The surgical technologist asked the registered nurse to double check the list which included:

- Electrosurgical unit with monopolar and bipolar capabilities
- Suction apparatus x 2
- Loupes for the surgeon
- Warming device

The surgical technologist verified that all items were in the room and completed a checklist on the surgeon's preference card. Once the circulator verified that everything on the preference card was available, the patient was visited in the preoperative holding unit by the circulator and anesthesia provider.[2,6]

STERILE FIELD SET-UP

Once the case cart was in the room, the surgical technologist and the circulator donned their masks. The surgical technologist positioned the back table, Mayo stand and ring stand at least 12 inches away from the wall. The surgical technologist opened the case cart and took out the basic pack and placed it on the back table. The instrument trays where placed on the ring stands to the left side of the back table. All the supplies that were to be opened for the case were placed on the Mayo. The basic table pack was removed from the plastic covering. After inspecting the pack for damage, the surgical technologist opened the back table pack in a sterile matter. The instrument trays were opened, the filters checked and the lids were placed in the case cart. All the supplies needed for the case were opened and placed onto the back table in a sterile fashion. The sterile gown and gloves for the surgical technologist were opened onto the Mayo table.

The surgical technologist walked out of the room and scrubbed in, preforming the counted brush stroke method of scrubbing — cleaning the subungual space with the tool provided, 30 counted strokes on nails, 10 back and forth

Anatomy/Pathophysiology

The penis is suspended from the front and the sides of the pubic arch. The penis contains the majority of the urethra. The penis's upper surface is called the dorsal portion and the bottom surface is known as the ventral surface.[1]

The penile shaft is also known as the middle body. The middle body is made up of three circular masses of cavernous erectile tissues and bound together by a fibrous tunica albuginea. The cavernous erectile tissue is a specialized venous sinus with a variable in diameter and is widely interconnected.[1]

- **Corpus cavernosa** – Two large columns of the erectile tissue in the penis dorsum. The posterior portion columns are separated by septal fibers. The corpus cavernosum forms the crura of the penis.[1]
- **Tunica albuginea** – Bands the two columns of the corpus cavernosa together. It is a dense fibrous membrane that encases and separates the dorsal corpora cavernosa and the ventral corpus spongiosum.[1]
- **Corpus spongiosum** – Located within the ventral side of the penis. The corpus spongiosum does not contribute to penile rigidity and it contains the penile urethra.1

Penile fascia

Also called Buck's fascia. The penile fascia consists of loose connective tissue that is located between the dartos layer of the shaft and the tunica albuginea. The penile fascia extends from the root of the penis to the coronal sulcus. The penile fascia contains the penile dorsal veins, small blood vessels, nerve bundles and adipocytes (also known adipose tissue).[1]

Dartos layer

A discontinuous smooth muscle layer that extends from the homologous scrotal layer and through the entire shaft between the dermis and penile fascia.[1]

Urethra

Divided into three portions. The length of the urethra ranges from 15 to 29 centimeters. The surface layers of the urethra are columnar and basal stratified epithelium and may be classified as pseudostratified epithelium. The male urethra contains T lymphocytes, macrophages and plasma cells which protect against infections.[1]

- **Prostatic urethra** – Surrounded by the prostate and contains urothelium. It is the most proximal part of the urethra.1
- **Membranous urethra** – Lower pole of the prostate to the bulb of the corpus spongiosum.[1]
- **Penile or distal urethra** – Passes through the corpus spongiosum.1

Distal penis

- **Glans** – Distal expansion of the corpus spongiosum and covers the end of the penis shaft. The glans penis forms a bulb-like shape.[1]
- **Glans corona** – Base of the glans that is elevated circumferentially at the rim. The glans corona may also contain small papillae over the free border.
- **Meatus urethralis** – Urethral opening that is located at the central ventral glans penis.[1]
- **Fossa navicularis** – Contains stratified non-keratinized squamous epithelium. The fossa navicularis is the dilated terminal part of the penile urethra.[1]
- **Frenulum** – Attaches the foreskin of the penis to the ventral glans. It is made up of fibrous bands of tissue.[1]
- **Coronal sulcus** – Located behind the glans corona. It is a circumferential and narrow cul-de-sac, in uncircumcised males. The coronal sulcus is also known as the area where the dartos and Buck's fascia insert.[1]
- **Foreskin** – Segment of skin that is folded on itself and covers the glans of the penis. The foreskin also covers the meatus of the penis so that the glans is not seen. It is made up of squamous epithelium, lamina propria, dartos layer and preputial skin.[1]

Muscles of the penis

- **Bulbospongiosus muscle** – Covers the bulb of the penis. It is located in the perineum in front of the anus. The bulbospongiosus muscle runs along the perineum and from the median raphe. This muscle contributes to the feeling of orgasm, ejaculation, and erection. The bulbospongiosus muscle serves to empty the urethra and expel bladder contents. The fibers of the bulbospongiosus generally relaxed and only go contract at the final stage of ejaculation.[1]
- **Ischiocavernosus muscle** – Helps the anus flex and stabilize the erect penis. The ischiocavernosus muscle compresses the crus penis and slows down the return of blood throughout the veins helping to maintain the penis erect.[1]
- **Superficial transverse perineal muscle** – Passes across the perineal space anterior to the anus. The superficial transverse perineal muscle comes from the tuberosity of the ischium, runs medially and inserts in the central tendinous point of the perineal body. The bands of the muscle join with the opposite side with the sphincter, ani externus muscle, and bulbospongiosus muscle and function to fix the perineal body in the center of the perineum.[1]

Blood supply

The blood supply of the penis comes from branches of the internal pudendal artery.

- **Cavernous artery** – Usually a single artery that comes from each side and enters the corpus cavernosum at the crus and runs through the whole length of penile shaft. The artery gives off helicine arteries that are integral components of the erectile process.[4]
- **Dorsal artery** – Runs along the dorsum of the penis between the dorsal vein and the dorsal nerve. The dorsal artery branches off circumferentially and is accompanied by the circumflex veins. The terminal branches of the dorsal artery are in the glans penis.[4]

- **Bulbourethral artery** – Passes through the deep penile Buck's fascia and supplies the bulb of the penis and the spongy urethra.[1]
- **Urethral artery** – Originates from the internal pudendal artery which is a small distance in anterior to the artery of the urethral bulb. In males, the urethral artery runs medially and forward piercing through the fascia of the urogenital diaphragm and into the corpus cavernosum of the urethra, then continues forward to the glans penis.[1]

Venous supply

- **Superficial veins** – Located in the dartos fascia on the dorsal lateral surface of the penis and combine at the base to form a single superficial dorsal vein. The vein drains into the great saphenous veins via the superficial external pudendal veins.[4]
- **Intermediate veins** – Contain the deep dorsal and circumflex veins. The veins lie within and beneath the deep penile Buck's fascia. The emissary veins begin within the erectile tissue of the corpora cavernosa and run through the tunica albuginea which drain into the circumflex or deep dorsal veins.[4]
- **Deep veins** – These drain into the crural and cavernosal veins. The crural veins come from the midline and the space between the crura. The cavernosal veins are between the emissary veins. The emissary veins join to form the large venous channel which drains at the internal pudendal vein. There are about three or four small cavernosal veins that run laterally between the corpus spongiosum and the crus of the penis before draining into the internal pudendal veins.[4]

Lymphatic and nerve supply of the penis

- **Lymphatic drainage** – The lymphatic drainage of the penis drains into the large trunks of the frenulum. The lymphatic vessels go around the dorsum of corona and then come together. They primarily go beneath the Buck's fascia and terminate at the deep inguinal nodes of the femoral triangle.[4]
- **Nerve supply** – The nerve supply of the penis comes from the pudendal and cavernous nerves. The cavernous nerve is a combination of the visceral afferent fiber and the parasympathetic. The cavernous nerve is the erectile tissue nerve and is in the crus and corpora of the penis. The cavernous nerve is mostly dorsomedial to the deep penile arteries.[4]

Anatomy of the testes

- **Testes** – Two glandular organs that are located on the outside of the body that are suspended between the thighs by the spermatic cords and are contained within the scrotum. In early embryonic life the testes are contained in the abdominal cavity located behind the peritoneum. Around two months before fetus is born the testes descend into the inguinal canal including the pass of the spermatic cord and emerge at the subcutaneous inguinal ring. The cord contains lymphatic vessels, blood vessels, nerves and ductus deferens. The testes descend into the scrotum where they become covered by serous, muscular, fibrous layers and the scrotum. The coverings of the testes are the skin, Dartos fascia, external spermatic fascia, cremaster muscle fascia, internal spermatic fascia, parietal layer of tunica vaginalis, epididymis and the tunica vaginalis. The testes main function is to produce spermatozoa and produce the hormone testosterone.[1,7]
- **Ductus deferens** – Also known as the vas deferens, is a tube that is contained in the spermatic cord and goes through the inguinal canal into the abdominal cavity. After entering the abdominal cavity, the ductus deferens separates from the remainder of the spermatic cord and curves behind the bladder. The ductus deferens functions in ejaculation by making the walls of the contract reflexively forcing the sperm move forward. As it is propelled, the sperm is transferred from the vas deferens to the urethra.[1,7]
- **Seminal vesicle** – The seminal vesicle is curled inside the gland and forms an outpocket of the ampulla of each ductus deferens. The excretory duct of the seminal gland opens into the ductus deferens as it inters into the prostate gland. The main function of the seminal vesicle is to secrete significant amounts of fluid that will ultimately become semen. The pH level of the fluid is mildly alkaline which allows the semen to neutralize the acidity of the vagina.[1,7]
- **Ejaculatory ducts** – The ejaculatory ducts are paired and formed by the union of the ductus deferens with the seminal vesicle. The ducts pass through the prostate and open into the urethra and the colliculus seminalis. The main function of the ejaculatory ducts is to expel the semen for reproduction.[1,7]
- **Epididymis** – The epididymis is a tube that is twisted and tightly compressed to the point where it looks solid. The epididymis is located at the posterior border of the testis and is composed of three main parts which include the head (caput), body (corpora), and the tail (cauda). The head of the epididymis hangs over the upper poles of the testis and receives seminal fluid from the ducts of the testis that pierce the top portion of the mediastinum. The head allows the passage of the sperm into the distal portion of epididymis. This part of the epididymis allows for storage and maturation of the sperm due to its length.[1,7]
- **Spermatic cord** – The spermatic cord runs from the abdomen to each side of the testicles. The spermatic cord contains all of the structures that go through the deep inguinal ring and the fascia coverings from the abdominal wall. The spermatic cords main function is to suspend the testis in the scrotum and contain all the structures that run to and from the testis including, blood supply, nerves, lymphatic vessels and the ductus deferens.[1,7]

Blood supply

- The blood supply for the testis includes the testicular artery, artery to ductus deferens and the pampiniform venous plexus.[7]

Nerve and lymphatic supply

- The nerve supply for the testis is the spermatic plexus. The lymph supply is the lumbar lymph nodes.[7]

strokes on each finger, followed by 10 circular scrubbing movements of the hands, wrists and arms to two inches above the elbow. Staying sterile, the surgical technologist reentered the operating room and secured the towel ensuring that no water was transferred to the sterile field. After drying off, the sterile gown was secured and donned, followed by the sterile gloves.

The surgical technologist then approached the back table, donned the outer pair of gloves and proceeded to dress the Mayo stand. The back table was lined with towels, organized and the instrument trays were retrieved, placed on the back table and organized. Following the facility's policy, the circulator and the surgical technologist worked together to transfer all necessary solutions (including medication) to the sterile field and label them and the initial count was completed.

The circulator and anesthesia provider brought the patient into the operating room, positioned him in the supine position on the operating table, and applied the safety strap. Everyone in the room introduced themselves to the child and made the child as comfortable as possible. General anesthesia was induced and an IV was initiated.

When dealing with pediatric patients, special considerations are required. The room temperature must be raised and appropriate heating supplies must be in or near the operating room. Warm blankets and Bair Huggers are generally used as children have low body mass and subcutaneous tissues.

PRE-OP

After the child was under, the circulator applied the warming device and made minor adjustments to the patient's position including tucking the arms at the patient's side and ensuring that all bony prominences and nerves were protected with foam padding.

Once the patient was positioned, the circulator prepped the patient with povidone iodine followed by a skin antiseptic solution. The prep began at the child's umbilicus and was continued circumferentially down to the thighs, including the scrotum and the uncircumcised penis. The foreskin was retracted and the glans was also prepped and scrubbed. Following the prep, the dispersive electrode for the electrosurgical unit was placed on the left buttock. The surgeon and the assistant entered the room, verified the presence of all needed instruments, equipment and supplies and the timeout was completed according to facility policy.

After the surgeon and assistant scrubbed, entered the operating room, dried their hands and arms and were gowned and gloved, the drapes were applied. A towel was placed under the scrotum and additional towels were used to outline the planned surgical site. A fenestrated drape sheet was applied leaving an opening from the inguinal area to the scrotum. The light handles were applied, the suction and electrosurgical pencil were secured to the drapes using nonperforating instruments, and the ends were passed to the circulator to be connected to the corresponding devices.

OPERATIVE STEPS

The skin of the urethra was peeled down using a curved mosquito and the marking pen was used to identify the planned incision site. The penile incision was made circumferentially approximately 8-9 mm proximal to the meatus and corona using a #15 safety knife on a #3 safety knife handle. X-ray detectable sponges were provided and the electrosurgical pencil was used to stop any bleeding. The skin was elevated from the phallus to the sides by using a curved iris scissors to dissect, and the 0.5 tissue forceps were used, as needed. The skin was dissected and cut into a triangular shape using the V-Lance blade and the 0.5 tissue forceps. Weck sponges were used to remove blood and bleeding was controlled by coagulation. The 4-0 Prolene RB-1 was loaded on a plastic needle holder and used to attach the upper metal edges to the distal glandular groove. The 4-0 Prolene was used as a traction suture and was secured with two curved mosquitos. The tip of the stent was lubricated with the water soluble lubricant and inserted in the urethra. The straight Mayo scissors was passed to shorten the stent. The 4-0 Ethibond TF was passed on a plastic needle holder for traction of the lateral gland tissue of the foreskin at the top of the ventral meatus and clamped using curved mosquitos. The 0.5 tissue pickups were passed to assist in suture handling. A green sterile rubber band was placed to serve as a tourniquet line of the penis. A butterfly 25-gauge needle was passed into the erectile bodies to allow inflation with sterile saline for the erection test. The test was done to determine the extent of the chordee. The 4-0 Prolene RB-1 was passed to hold the stent into place for the duration of the surgery. The 7-0 TG double armed was loaded onto a plastic needle holder and cut in half with the suture scissors. The 7-0 TG was used for additional assistance in holding the stent. Further dissection of the tissue of the prepuce was accomplished with the Westcott scissors. The stent was

stitched with a 7-0 PDS II to be used as a back stop. The back stop went all the way up to the head of the penis. The suture was loaded on a needle holder followed by suture scissors and 0.5 fine tissue forceps. The edges of the glands are closed in two layers making a V-shape on the ventral side of the penis, while the third layer of the tissue is placed superiorly as a seal. The first layer seals the urethra while the second layer provides a sealing by taking the tension of the first layer, which allows the blood supply to heal. A towel was placed underneath the penis to catch urine. The Dartos skin was cut with a #15 safety blade and dissected out with the Westcott scissors. The flap was used to cover the third layer.

The 7-0 Vicryl was passed for the suturing of the Dartos flap. The suture was loaded on needle holder and a fine 0.5 tissue forceps was also used. The traction suture was cut with suture scissors and all mosquito clamps where retrieved. The 5-0 PDS II was passed for the suturing of the head orifice. The suture was loaded on a needle holder followed by 0.5 tissue forceps. The skin was thin-sutured with a 5-0 Chromic P-3. The suture was loaded on plastic needle holders accompanied by Adson tissue forceps with teeth.

The first count was performed as the skin was being sutured. The 4-0 Vicryl RB-1 was loaded and passed followed by Adson tissue forceps with teeth to sew the stent in place. The stent will remain in place until the urethroplasty is healed.

ORCHIOPEXY

The marking pen was passed to mark inguinal incision and the scrotal incision. The transverse inguinal incision was made approximately two to three inches in length using a #15 safety blade on a safety blade handle cutting through the fascia, external oblique aponeurosis and internal oblique muscle. The external oblique aponeurosis was opened to expose the inguinal canal using the Tenotomy scissors. Adson tissue forceps with teeth where passed to help with the retraction of the skin. The electrosurgical pencil was passed to aid in achieving hemostasis. The gubernacular attachments of the undescended testicle was dissected and brought out into the abdominal cavity using a DeBakey forceps.

The inguinal hernia sac was freed and the cord was lengthened so the testis could reach the scrotum. Gerald tissue forceps were used for maneuvering of testis into scrotum. The scrotal incision was made in a transverse manner along the scrotal fold. The tunica albuginea was attached to the Dartos muscle using a 4-0 Chromic P-3 for tacking laterally and inferiorly to prevent herniation. A scrotal pocket was created to anchor the testicles into a normal anatomical position with 4-0 Chromic suture on a plastic's needle holder followed by Adson tissue forceps with teeth and suture scissors. The orchiopexy was performed bilaterally with more emphasis on the left testicle. The incision was closed with 5-0 Chromic P-3 passed on a plastic needle holder and Adson tissue forceps with teeth.

The final count was performed when the final skin sutures were being placed. All sharps and sponges were accounted for and then the incisions made for both the hypospadias and orchiopexy where cleaned using a wet sponge followed by a dry sponge. The patient may receive a penile block to decrease immediate postoperative pain.

At the completion of the procedure, the surgical technologist moved the back table and the Mayo stand to its original position, removed and discarded the drapes and waited until the child was put onto the gurney and taken to the postanesthesia care unit (PACU) before breaking down the sterile field.

Dressings where applied by applying a liquid adhesive on the on penis, inguinal incision and scrotal incision. Two dressings were applied on the penis and one on the inguinal incision on top of small nonstick pad. Then an elastic wrap was wrapped around the penis. A diaper was placed to catch the urine draining from the stent.

POSTOPERATIVE CARE

At the completion of the procedure, the surgical technologist moved the back table and the Mayo stand to its original position, removed and discarded the drapes and waited until the child was put onto the gurney and taken to the postanesthesia care unit (PACU) before breaking down the sterile field. The child was sent intubated and asleep to the PACU where vital signs were observed and charted until the patient regained consciousness. Once the child regained consciousness, he was transferred to the outpatient area where he was reunited with his family. The patient stayed in the outpatient area for four hours until his vital signs were normal and stable and then he was discharged. The patient was required to return four to six weeks after the surgery for a follow-up with his surgeon.[6]