



Evaluation and Management of a Patient with a Genitourinary Condition

Description of the Activity	<p>Pediatric surgeons commonly encounter patients with genitourinary conditions in both the elective (phimosis, cryptorchidism) and emergent (testicular or ovarian torsion) settings. In these instances, the pediatric surgeon must be able to evaluate the broad spectrum of presentations for these conditions as well as initiate timely investigation and surgical intervention.</p>
Functions	<ul style="list-style-type: none">❖ Nonoperative/Preoperative<ul style="list-style-type: none">➤ Synthesize essential information from the patient's clinical history, physical examination, and pertinent records to develop a differential diagnosis.➤ Identify the location of the testicle on exam, differentiating between a retractile testicle and an undescended testicle.➤ Recognize findings consistent with testicular torsion.➤ In the setting of an ovarian or paratubal cyst, determine if the patient has torsion.➤ Complete a timely, cost-effective, and evidence-based diagnostic evaluation.➤ Communicate the diagnosis and potential treatment options to the patient/family and the primary health care provider/consultants.➤ Obtain informed consent, ensuring patient and family understanding of the indications, risks, benefits, alternatives, optimal operative timing, and potential short- and long-term complications as well as the typical convalescence of the planned operative procedure. Include nuances relevant to the patient's individual condition (eg, ovarian preservation), comorbidities, and family/caregiver situation (eg, social determinants of health).➤ Perform preoperative optimization of the patient, including obtaining additional consultation as needed (eg, patient with complex comorbidities or a recent upper respiratory tract infection).➤ Identify a patient who requires emergent intervention.➤ Identify testicular or ovarian torsion➤ Identify acute urinary retention from severe phimosis➤ Identify paraphimosis➤ Identify a patient in whom operative intervention may be delayed or not required.➤ Identify retractile testicles➤ Identify a patient in whom further investigation is required.➤ Bilateral undescended testicles or suspected DSD (more investigation)➤ Identify special patient populations associated with cryptorchid testicles and the potential challenges associated with management.➤ gastroschisis, omphalocele, congenital diaphragmatic hernia, prune belly, Klinefelter syndrome, trisomy 21, cerebral palsy➤ Identify a patient who requires orchiectomy rather than orchidopexy based on age, malignant potential, location, perinatal torsion❖ Intraoperative<ul style="list-style-type: none">➤ Perform the procedures required to manage cryptorchidism.➤ Perform open or laparoscopic orchidopexy in a patient with palpable testes.



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- Identify and mobilize the testicle.
- Perform lengthening procedures (retroperitoneal dissection, medialization).
- Demonstrate awareness of a long looping vas.
- Create a dartos pouch and secure the testicle.
- Recreate an external ring.
- Perform final orientation of cord structures.
- Perform laparoscopy in a patient with nonpalpable testes.
- Determine the location of the testicle to plan a 1-stage or 2-stage procedure.
- Perform a 2-stage Fowler-Stephens orchidopexy.
- Ligate the testicular vessels to promote secondary vascularization of the testicle (stage 1).
- Mobilize the peritoneum containing secondary vasculature, preserving the peritoneum between testicular vessels and the vas deferens.
- Perform scrotal orchidopexy (acute torsion).
- Expose the testicle, initiate rewarming and assess for viability.
- Perform contralateral orchidopexy with or without ipsilateral orchidopexy/orchiectomy.
- Manage ovarian torsion with laparoscopic or open repair.
- Perform simple detorsion with or without potential resection of any associated mass or cyst.
- Differentiate between ovarian and paratubal cysts, ensuring fallopian tube preservation in the latter.
- Assess ovary and fallopian tube viability (may require salpingo- or salpingo-oophorectomy).
- Demonstrate understanding of ovarian preservation as a key principle.
- Perform circumcision using a bell clamp, Gomco clamp, Plastibell, or open procedure.
- Manage bleeding complications.
- Manage common intraoperative complications such as bleeding, vas injury, and testicular ischemia during exploration for testicular torsion or orchidopexy.
- Identify alternative techniques to get adequate length (retroperitoneal mobilization, Prentiss maneuver, orchidopexy).

❖ Postoperative

- Perform routine postoperative, immediate, and follow-up care.
- Order follow-up imaging to inform a future procedure (resection of mass) for a patient with ovarian torsion.
- Assess for meatal stenosis and review pathology for balanitis xerotica obliterans (BXO) for a patient who has undergone circumcision.
- Communicate with the patient/family to ensure that instructions are understood.
- Recognize early and late complications related to genitourinary tract procedures.
- Perform follow-up for testicular position and atrophy assessment in a patient who has undergone orchidopexy.



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Scope

❖ In scope

○ Diagnoses

- Cryptorchidism
 - Inguinal testes
 - Intra-abdominal testes
- Ovarian torsion
 - Ovarian cyst
 - Hemorrhagic
 - Ruptured versus intraovarian
- Paraphimosis
- Paratubular cyst

○ Procedures

- Circumcision
- Circumcision revision
- Orchidopexy (including laparoscopic-assisted, Fowler-Stephens stage 1 and 2)
- Ovary-preserving cystectomy
- Reduction paraphimosis

○ Special populations

- Older children with missed cryptorchidism
- Intersex

❖ Out of scope

○ Diagnoses/procedures

- Acquired postinguinal hernia
- Bilateral undescended testes
- Congenital hydrocele
- Gastroschisis, prune belly
- Ischemic gonads
- Retractable testes



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Level	Nonoperative/Preoperative	Intraoperative	Postoperative
<p>1</p> <p>Framework:</p> <p>The learner demonstrates understanding of information and has basic skills</p> <p>What a new pediatric surgery fellow should know</p> <p>Entrustment:</p> <p>The attending will show and tell or the learner acts as first assistant.</p>	<ul style="list-style-type: none">• With active assistance, uses a patient's H&P and pertinent records to develop a differential for an uncomplicated patient• With active assistance, diagnoses an undescended testicle; demonstrates limited ability to identify the location of the testicle on exam• With active guidance, identifies a patient requiring emergent intervention (e.g., testicular or ovarian torsion, acute urinary retention from severe phimosis or paraphimosis)• With active assistance and using evidence-based care, determines the need for orchiectomy vs orchidopexy with consideration for age, malignant potential, location, and history of perinatal torsion• With active assistance, determines anatomic contraindications to circumcision (eg, chordee, hypospadias, epispadias, concealed or buried penis, micropenis, webbed penis, ambiguous genitalia)• Establishes professional rapport with a patient and their family and communicates basic facts about the condition but inconsistently uses applicable language services and audio/visual aids	<ul style="list-style-type: none">• Requires direct supervision during routine inguinal or scrotal orchidopexy, laparoscopic Fowler-Stephens staged orchidopexy, testicular detorsion, and laparoscopic-assisted ovarian detorsion/cystectomy• Performs a circumcision in the OR with active assistance• Demonstrates understanding of the basic elements of testicular, ovarian, and penile anatomy	<ul style="list-style-type: none">• With direct supervision, manages the postop course of a patient undergoing an uncomplicated genitourinary tract procedure• With direct supervision, identifies post-circumcision complications in the ambulatory setting requiring operative intervention (e.g., bleeding)• Establishes a professional rapport with a patient and their family and communicates postop instructions in a clear and understandable manner



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<p>2</p> <p>Framework:</p> <p>The learner demonstrates understanding of the steps of the operation but requires direction through principles and does not know the nuances of a basic case</p> <p>Entrustment:</p> <p>The learner can use the tools but may not know exactly what, where, or how to do it.</p> <p>The attending gives active help throughout the case to maintain forward progression or may need to take over the case at a certain point</p>	<ul style="list-style-type: none">• With direct supervision, uses a patient's H&P and pertinent records to develop a comprehensive plan and differential for an uncomplicated patient• With direct supervision, diagnoses an undescended testicle and identifies the location of the testicle on exam• With direct supervision, identifies a patient requiring emergent intervention (eg, testicular or ovarian torsion, acute urinary retention from severe phimosis or paraphimosis)• With indirect supervision and using evidence-based care, determines the need for orchiectomy vs orchidopexy with consideration for age, malignant potential, location, and history of perinatal torsion• With passive assistance, determines anatomic contraindications to circumcision (eg, chordee, hypospadias, epispadias, concealed or buried penis, micropenis, webbed penis, ambiguous genitalia)• Establishes a therapeutic relationship with a straightforward patient and their family and compassionately delivers medical information, using visual aids as necessary	<ul style="list-style-type: none">• Requires indirect supervision during routine inguinal or scrotal orchidopexy, laparoscopic Fowler-Stephens staged orchidopexy, testicular detorsion, and laparoscopic-assisted ovarian detorsion/cystectomy• Performs a circumcision in the OR with passive assistance• Demonstrates understanding of the surgically relevant anatomic variations in testicular, ovarian, and penile anatomy	<ul style="list-style-type: none">• With indirect supervision, manages the postop course of a patient undergoing an uncomplicated genitourinary tract procedure and describes a general long-term management plan• With indirect supervision, identifies post-circumcision complications in the ambulatory setting requiring operative intervention (eg, bleeding)• Establishes a therapeutic relationship with a straightforward patient and their family and compassionately delivers medical information, identifying complex barriers to effective communication



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<p>3</p> <p>Framework:</p> <p>The learner has a good understanding of surgical options and techniques but does not recognize abnormalities and does not understand the nuances of a complicated case</p> <p>Entrustment:</p> <p>The learner can perform the operation/task independently in the uncomplicated patient</p> <p>or</p> <p>The attending provides passive/indirect supervision/suggestions in the complicated patient but still allows the learner to perform the operation/task themselves</p>	<ul style="list-style-type: none">Independently uses a patient's H&P and pertinent records to develop a comprehensive plan and differential for an uncomplicated patientWith passive assistance, localizes an undescended testicle, distinguishes retractile testes, and recognizes testicular torsionWith indirect supervision, identifies a patient requiring emergent intervention (eg, testicular or ovarian torsion, acute urinary retention from severe phimosis or paraphimosis)Independently determines the need for orchiectomy vs orchidopexy using evidence-based care, with consideration for age, malignant potential, location, and history of perinatal torsionIndependently determines anatomic contraindications to circumcision (eg, chordee, concealed or buried penis, micropenis, webbed penis); requires passive assistance with a complex presentation (eg, hypospadias, epispadias, ambiguous genitalia)Establishes a therapeutic relationship with a challenging patient and their family and acknowledges uncertainty in alignment of goals	<ul style="list-style-type: none">Requires indirect supervision during complex inguinal or scrotal orchidopexy (includes retroperitoneal mobilization, Prentiss maneuver), laparoscopic Fowler-Stephens staged orchidopexy, testicular detorsion including assessment of viability and need for orchiectomy, and laparoscopic-assisted ovarian detorsion/cystectomy; differentiates between an ovarian and a paratubal cyst and safely preserves the fallopian tubeWith indirect supervision, performs a circumcision in the outpatient settingWith indirect supervision, identifies surgically relevant anatomic variations and alters patient management accordingly	<ul style="list-style-type: none">With indirect supervision, manages the postop course of a patient undergoing a complicated genitourinary tract procedure and follows an evidence-based long-term management planWith indirect supervision, identifies post-circumcision complications in the ambulatory setting and initiates operative interventionEstablishes a therapeutic relationship with a challenging patient and their family and clearly communicates the expected outcome, anticipated treatment course, and need for future imaging



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<p>4</p> <p>Framework:</p> <p>The learner has a strong and in-depth understanding of surgical options and techniques</p> <p>Entrustment:</p> <p>Can perform the operation/task independently in complicated cases</p> <p>or</p> <p>The attending may need to provide indirect supervision or suggestions in the context of extremely rare or severely complicated cases</p>	<ul style="list-style-type: none">Independently integrates information with patient-specific factors to design a succinct workup and diagnostic management plan for a complicated patientIndependently localizes an undescended testicle, distinguishes retractile testes, and recognizes testicular torsionIndependently and swiftly identifies a patient requiring emergent intervention (eg, testicular or ovarian torsion, acute urinary retention from severe phimosis or paraphimosis) and mobilizes the surgical team to expedite careUsing evidence-based care, independently identifies special patient populations associated with cryptorchid testicles (eg, gastroschisis, omphalocele, CDH, prune belly syndrome, Klinefelter syndrome, trisomy 21, cerebral palsy), recognizing the potential challenges associated with managementIndependently identifies anatomic contraindications to circumcision, including a complex presentationUses shared decision-making to align the values, goals, and preferences of a patient and their family with treatment options to make a personalized care plan; discusses the nuances relevant to the patient's condition (eg, ovarian preservation),	<ul style="list-style-type: none">Independently performs complex inguinal or scrotal orchidopexy (includes retroperitoneal mobilization, Prentiss maneuver), laparoscopic Fowler-Stephens staged orchidopexy, testicular detorsion including assessment of viability and need for orchiectomy, and laparoscopic-assisted ovarian detorsion/cystectomy; differentiates between an ovarian and a paratubal cyst and safely preserves the fallopian tubeIndependently performs a circumcision in the outpatient settingIndependently describes and identifies the elements of testicular, ovarian, and penile anatomy, including anatomic variants, and alters patient management accordingly	<ul style="list-style-type: none">Independently manages the postop course of a patient undergoing a complicated genitourinary tract procedure and integrates patient- and family-specific factors into the construction of an evidence-based long-term management planIndependently identifies post-circumcision complications in the ambulatory setting and initiates operative interventionAligns the values, goals, and preferences of the patient and their family with treatment options to make a personalized care plan using shared decision-making, recognizing when personal treatment preferences diverge from those of the patient or family



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	comorbidities, and caregiver situation (eg, social determinants of health)		