

The Pediatric Surgery Milestone Project

A Joint Initiative of

The Accreditation Council for Graduate Medical Education,

and

The American Board of Surgery



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The Pediatric Surgery Milestone Project

The Milestones are designed only for use in evaluation of fellows in the context of their participation in ACGME-accredited residency or fellowship programs. The Milestones provide a framework for assessment of the development of the fellow in key dimensions of the elements of physician competency in a specialty or subspecialty. They neither represent the entirety of the dimensions of the six domains of physician competency, nor are they designed to be relevant in any other context.

Pediatric Surgery Milestones

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Milestone Reporting

This document presents milestones designed for programs to use in semi-annual review of fellow performance and reporting to the ACGME. Milestones are knowledge, skills, attitudes, and other attributes for each of the ACGME competencies organized in a developmental framework from less to more advanced. They are descriptors and targets for fellow performance as a fellow moves from entry into fellowship through graduation. In the initial years of implementation, the Review Committee will examine Milestone performance data for each program's fellows as one element in the Next Accreditation System (NAS) to determine whether fellows overall are progressing.

For each period, review and reporting will involve selecting milestone levels that best describe a fellow's current performance and attributes. Milestones are arranged into numbered levels. Tracking from Level 1 to Level 5 is synonymous with moving from novice to expert in the subspecialty.

Selection of a level implies that the fellow substantially demonstrates the milestones in that level, as well as those in lower levels (see the diagram on page v).

Level 1: The fellow demonstrates milestones expected of an incoming fellow.

Level 2: The fellow is advancing and demonstrates additional milestones, but is not yet performing at a mid-fellowship level.

Level 3: The fellow continues to advance and demonstrate additional milestones, consistently including the majority of milestones targeted for fellowship.

Level 4: The fellow has advanced so that he or she now substantially demonstrates the milestones targeted for fellowship. This level is designed as the graduation target.

Level 5: The fellow has advanced beyond performance targets set for fellowship and is demonstrating "aspirational" goals which might describe the performance of someone who has been in practice for several years. It is expected that only a few exceptional fellows will reach this level.

Additional Notes

Level 4 is designed as the graduation *target* and *does not* represent a graduation *requirement*. Making decisions about readiness for graduation is the purview of the fellowship program director. Study of Milestone performance data will be required before the ACGME and its partners will be able to determine whether milestones in the first four levels appropriately represent the developmental framework, and whether Milestone data are of sufficient quality to be used for high-stakes decisions.

Examples are provided with some milestones. Please note that the examples are not the required element or outcome; they are provided as a way to share the intent of the element.

Some milestone descriptions include statements about performing independently. These activities must occur in conformity to the ACGME supervision guidelines, as well as to institutional and program policies. For example, a fellow who performs a procedure independently must, at a minimum, be supervised through oversight.

Answers to Frequently Asked Questions about Milestones are available on the Milestones web page:

<http://www.acgme.org/acqmeweb/Portals/0/MilestonesFAQ.pdf>.

The diagram below presents an example set of milestones for one sub-competency in the same format as the ACGME Report Worksheet. For each reporting period, a fellow's performance on the milestones for each sub-competency will be indicated by selecting the level of milestones that best describes that fellow's performance in relation to those milestones.

Inguinal hernia repair on a child less than 6 months of age — Patient Care				
Level1	Level2	Level3	Level4	Level5
Serves as first assistant for the majority of the procedure	<p>Incision Limited ability to identify appropriate incision or port placement</p> <p>Exposure Limited ability to expose key structures</p> <p>Hernia sac dissection/ligation Limited ability to perform hernia sac dissection/ligation or vas/vessel/fallopian tube dissection</p>	<p>Functional but suboptimal placement of incision/port(s)</p> <p>Adequate establishment and maintenance of retraction but with occasional loss of exposure of key structures</p> <p>Successful, but suboptimal dissection/ligation of hernia sac; vas/vessels/fallopian tube preserved with minor traumatic injury</p>	<p>Consistently appropriate placement of incision/port(s)</p> <p>Consistently optimizes exposure of inguinal anatomy, efficiently directs wound retraction to maintain exposure</p> <p>Consistently appropriate dissection/ligation of hernia sac and consistently safe mobilization of vas/vessels/fallopian tube</p>	<p>Develops innovative operative technique, approach or significant improvement in established technique for inguinal hernia repair</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				

Selecting a response box in the middle of a level implies that milestones in that level and in lower levels have been substantially demonstrated.

Selecting a response box on the line in between levels indicates that milestones in lower levels have been substantially demonstrated as well as **some** milestones in the higher level(s).

Bronchoscopy/Esophagoscopy — Patient Care				
Level 1	Level 2	Level 3	Level 4	Level 5
Serves as first assistant for the majority of the procedure	<p>Equipment Limited ability to assemble scope and troubleshoot functional problems</p> <p>Technique Limited exposure of tracheobronchial tree and esophagus; poor utilization of scope</p> <p>Foreign body/biopsy Limited ability to identify foreign body/tumor or to retrieve foreign body/biopsy tumor</p>	<p>Functional knowledge adequate, but suboptimal assembly of equipment or ability to troubleshoot problems</p> <p>Adequate but suboptimal understanding and exposure of tracheobronchial tree and esophagus; adequate utilization of scope</p> <p>Adequate but inefficient identification of foreign body/tumor and/or retrieval of foreign body/biopsy of tumor</p>	<p>Independent ability to assemble scope and troubleshoot problems</p> <p>Consistently optimal understanding and exposure of tracheobronchial tree and esophagus; optimal utilization of scope</p> <p>Expedient and safe identification of foreign body/tumor and/or retrieval of foreign body/biopsy of tumor</p>	Develops innovative operative technique, approach, or significant improvement in bronchoscopy/esophagoscopy
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not yet achieved Level 1 <input type="checkbox"/>

Esophageal atresia/Tracheoesophageal Fistula (TEF) Repair — Patient Care				
Level 1	Level 2	Level 3	Level 4	Level 5
Serves as first assistant for the majority of the procedure	<p>Incision Limited ability to identify appropriate incision or port placement</p> <p>Dissection Limited ability to dissect TEF</p> <p>Fistula ligation Limited ability to ligate/divide fistula; concern for tracheal narrowing</p> <p>Anastomosis Limited ability to appropriately space and place anastomotic sutures and approximate tissue</p>	<p>Functional, but suboptimal incision or port placement</p> <p>Adequate but suboptimal dissection of TEF</p> <p>Successful, but suboptimal ligation/division of fistula and tracheal dissection</p> <p>Occasional lapses in appropriate spacing and depth of anastomotic sutures, or occasional lapse in tissue approximation</p>	<p>Consistently appropriate placement of incision or ports</p> <p>Expedient dissection, safe isolation of TEF</p> <p>Consistently appropriate ligation/division of fistula; maintained appropriate cuff of membranous trachea</p> <p>Consistently appropriate spacing of sutures, tissue approximation, and consistent bites into submucosa</p>	<p>Develops innovative operative technique, approach, or significant improvement in the established technique for esophageal atresia/TEF repair</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not yet achieved Level 1 <input type="checkbox"/>

Inguinal hernia repair on a child less than six months of age — Patient Care				
Level 1	Level 2	Level 3	Level 4	Level 5
Serves as first assistant for the majority of the procedure	<p>Incision Limited ability to identify appropriate incision or port placement</p> <p>Exposure Limited ability to expose key structures</p> <p>Hernia sac dissection/ligation Limited ability to perform hernia sac dissection/ligation or vas/vessel/fallopian tube dissection</p>	<p>Functional but suboptimal placement of incision/port(s)</p> <p>Adequate establishment and maintenance of retraction but with occasional loss of exposure of key structures</p> <p>Successful, but suboptimal dissection/ligation of hernia sac; vas/vessels/fallopian tube preserved with minor traumatic injury</p>	<p>Consistently appropriate placement of incision/port(s)</p> <p>Consistently optimizes exposure of inguinal anatomy; efficiently directs wound retraction to maintain exposure</p> <p>Consistently appropriate dissection/ligation of hernia sac and consistently safe mobilization of vas/vessels/fallopian tube</p>	Develops innovative operative technique, approach, or significant improvement in established technique for inguinal hernia repair
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not yet achieved Level 1 <input type="checkbox"/>

Intestinal/duodenal atresia (DA) repair — Patient Care				
Level 1	Level 2	Level 3	Level 4	Level 5
Serves as first assistant for the majority of the procedure	<p>Incision/port placement Limited ability to identify appropriate incision or port placement</p> <p>Abdominal exploration Limited ability to perform abdominal exploration that should include evaluation for additional abnormalities (e.g., atresias, malrotation)</p> <p>Intestinal resection (atresia) Limited ability to perform intestinal resection or failure to consider need for tapering/Serial Transverse Enteroplasty (STEP)</p> <p>Anastomosis Limited ability to appropriately space and place anastomotic sutures and approximate tissue (in DA, often unaware of Sphincter of Oddi)</p>	<p>Functional but suboptimal placement of incision/port(s)</p> <p>Adequate, but suboptimal performance of abdominal exploration that should include evaluation for additional anomalies (e.g., atresias, malrotation)</p> <p>Adequate, but suboptimal performance of intestinal resection and/or tapering/STEP</p> <p>Occasional lapses in spacing and depth of anastomotic sutures, or occasional lapse in tissue approximation (in DA, occasional lapse in awareness of Sphincter of Oddi)</p>	<p>Consistently appropriate placement of incision/port(s)</p> <p>Consistently performs complete, efficient, and systematic abdominal exploration that identifies additional abnormalities (e.g., atresias, malrotation)</p> <p>Consistently appropriate understanding and performance of intestinal resection and/or tapering/STEP</p> <p>Consistently appropriate spacing of sutures, tissue approximation, and consistent bites into submucosa (in DA, continually aware of Sphincter of Oddi)</p>	Develops innovative operative technique, approach, or significant improvement in established technique for intestinal/DA repair
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not yet achieved Level 1 <input type="checkbox"/>

Hirschsprung pull-through — Patient Care				
Level 1	Level 2	Level 3	Level 4	Level 5
Serves as first assistant for the majority of the procedure	<p>Incision/port placement Limited ability to identify appropriate incision or port placement</p>	Functional but suboptimal placement of incision/port(s)	Consistently appropriate placement of incision/port(s)	Develops innovative operative technique, approach, or significant improvement in established technique for Hirschsprung pull-through
	<p>Abdominal exploration Limited ability to perform abdominal exploration or to identify transition zone and/or perform biopsy</p>	Adequate, but suboptimal performance of abdominal exploration, identification of transition zone, and/or performance of biopsy	Consistently performs complete, efficient, and systematic abdominal exploration with appropriate identification of transition zone and biopsy	
	<p>Rectal dissection/resection Limited ability to perform pull-through</p>	Adequate, but suboptimal performance of pull-through	Consistently appropriate performance of pull-through	
	<p>Suture placement Limited ability to appropriately space and place anastomotic sutures, or to approximate tissue; limited ability to orient pull-through</p>	Occasional lapses in spacing and depth of anastomotic sutures, or lapses in tissue approximation; occasional lapses in pull-through segment orientation	Consistently appropriate spacing of sutures, tissue approximation, and bites into submucosa; consistently aware of pull-through segment orientation	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not yet achieved Level 1 <input type="checkbox"/>

Wilms/Neuroblastoma Resection — Patient Care				
Level 1	Level 2	Level 3	Level 4	Level 5
Serves as first assistant for the majority of the procedure	<p>Incision/port placement (as appropriate) Limited ability to identify appropriate incision or port placement</p> <p>Abdominal exploration Limited ability to perform abdominal exploration/tumor exposure</p> <p>Vascular control Limited ability to identify and control vascular structures in either tumor, and/or to assess for tumor thrombus in Wilms</p> <p>Excision of tumor Limited ability to safely manipulate tumor (e.g., without rupture in Wilms) and/or to make decisions regarding resectability</p>	<p>Functional but suboptimal placement of incision/port(s)</p> <p>Adequate, but suboptimal performance of abdominal exploration/tumor exposure</p> <p>Adequate, but suboptimal performance of control of vascular structures in either tumor, and/or assessment for tumor thrombus in Wilms</p> <p>Adequate, but suboptimal ability to safely manipulate tumor (e.g., without rupture in Wilms) and/or to make decisions regarding resectability</p>	<p>Consistently appropriate placement of incision/port(s)</p> <p>Consistently performs complete, efficient, and systematic abdominal exploration/tumor exposure</p> <p>Consistently appropriate performance of control of vascular structures in either tumor, and assessment for tumor thrombus in Wilms</p> <p>Consistently appropriate technique with tumor manipulation and intra-operative decision-making</p>	<p>Develops innovative operative technique, approach, or significant improvement in established technique for Wilms/neuroblastoma resection</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not yet achieved Level 1 <input type="checkbox"/>

Congenital Diaphragmatic Hernia Repair — Patient Care				
Level 1	Level 2	Level 3	Level 4	Level 5
Serves as first assistant for the majority of the procedure	<p>Extracorporeal membrane oxygenation (ECMO) cannulation (if performed) decision making Limited ability to make appropriate decision for instituting ECMO and discriminating between venovenous and venoarterial options</p> <p>Cannulation Limited ability to identify and control cervical vascular structures; limited ability to safely insert cannulas</p> <p>Incision/port placement Limited ability to identify appropriate placement of incision/port(s)</p> <p>Diaphragm repair Limited ability to safely and effectively reduce hernia contents and/or close diaphragmatic defect with appropriately spaced/placed sutures</p>	<p>Adequate, but suboptimal decision-making for instituting ECMO and discriminating between venovenous and venoarterial options</p> <p>Adequate, but suboptimal ability to identify and control neck vascular structures; adequate, but suboptimal ability to safely insert cannulas</p> <p>Functional but suboptimal placement of incision/port(s)</p> <p>Adequate, but suboptimal ability to effectively reduce hernia contents and/or close diaphragmatic defect with appropriately spaced/placed sutures</p>	<p>Consistently appropriate decision-making for instituting ECMO and discriminating between venovenous and venoarterial options</p> <p>Consistently appropriate ability to identify and control neck vascular structures; consistent ability to safely insert cannulas</p> <p>Consistently appropriate placement of incision/port(s)</p> <p>Consistently demonstrates the appropriate ability to effectively reduce hernia contents and/or close diaphragmatic defect with appropriately spaced/placed sutures</p>	<p>Develops innovative operative technique, approach, or significant improvement in established technique for congenital diaphragmatic hernia repair</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not yet achieved Level 1 <input type="checkbox"/>

General Procedure Assessment — Patient Care				
Level 1	Level 2	Level 3	Level 4	Level 5
Serves as first assistant for the majority of the procedure	<p>Instrument handling Limited ability to choose and use instruments appropriately</p> <p>Respect for tissue Limited ability to handle tissues carefully; moderate tissue damage</p> <p>Time and motion Frequent tentative, awkward, unnecessary movements</p> <p>Operation flow Frequent lack of forward progression; frequently stops operating and seems unsure of next move</p>	<p>Adequate, but suboptimal use and choice of instruments</p> <p>Adequate, but suboptimal tissue handling; occasional tissue damage</p> <p>Efficient time and motion, occasional awkward or unnecessary movements</p> <p>Some forward planning of operation; reasonable procedure progression</p>	<p>Consistently appropriate use and choice of instruments</p> <p>Consistently appropriate handling of tissues; minimal tissue damage</p> <p>Clear economy of motion and maximum efficiency</p> <p>Obviously has planned course of operation and anticipated next steps</p>	Develops innovative operative technique, instrumentation, operative approach, or significant improvement in established technique
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not yet achieved Level 1 <input type="checkbox"/>

General Patient Care Assessment — Patient Care				
Level 1	Level 2	Level 3	Level 4	Level 5
<p>Performs a basic physical exam and understands the management and imaging in a newborn or child; performs primary assessment and initiates resuscitation of an injured child</p> <p>Diagnoses common complications</p> <p>Recognizes normal growth, development, and expected outcome after treatment</p>	<p>Performs a comprehensive physical exam, recognizes associated anomalies, and provides the pre- and post-operative management of an uncomplicated newborn or single-system injured child, including intensive care unit (ICU) care (ventilator management, parenteral nutrition, fluids and electrolytes)</p> <p>Manages common post-operative complications</p> <p>Recognizes variances in growth, development, and expected outcome after treatment</p>	<p>Provides the pre- and post-operative management of a complicated newborn, or multiple injured child, including ICU care (ventilator management, parenteral nutrition, fluids and electrolytes)</p> <p>Manages complex post-operative complications</p> <p>Evaluates and manages variances from expected outcomes in the late post-operative course in the outpatient setting</p>	<p>Directs the multidisciplinary pre- and post-operative management of a complex newborn with multiple anomalies, or multiple injured child, including ICU care (ventilator management, parenteral nutrition, fluids and electrolytes)</p> <p>Independently anticipates, diagnoses, and proficiently manages interventions and complications, and appropriately involves the multidisciplinary team</p> <p>Independently provides comprehensive long-term care in the outpatient setting</p>	<p>Appropriately and independently counsels families for prenatal surgical conditions</p> <p>Directs and leads multidisciplinary team in quality improvement focused on patient outcomes</p> <p>Coordinates/leads a multidisciplinary team in providing comprehensive care of the child transitioning to adulthood</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Comments:</p>				<p>Not yet achieved Level 1 <input type="checkbox"/></p>

Medical Knowledge				
Level 1	Level 2	Level 3	Level 4	Level 5
<p>Through discussion in didactic and clinical settings, this fellow demonstrates thorough knowledge of the basic pediatric surgery topics below:</p> <ul style="list-style-type: none"> ▪ Appendicitis ▪ Inguinal hernia ▪ Intussusception ▪ Malrotation ▪ Pyloric stenosis ▪ Thoracic/abdominal trauma ▪ Undescended testis 	<p>Through discussion in didactic and clinical settings, this fellow demonstrates thorough knowledge of the intermediate pediatric surgery topics below:</p> <ul style="list-style-type: none"> ▪ Branchial cleft cyst/sinus/remnant ▪ Gastroesophageal reflux ▪ Gastroschisis ▪ Lung physiology ▪ Omphalocele ▪ Ovarian/adnexal diseases 	<p>Through discussion in didactic and clinical settings, this fellow demonstrates thorough knowledge of the advanced pediatric surgery topics below:</p> <ul style="list-style-type: none"> ▪ DA ▪ ECMO ▪ Hirschsprung disease ▪ Intestinal atresia ▪ Neuroblastoma ▪ Wilms tumor 	<p>Through discussion in didactic and clinical settings, this fellow demonstrates thorough knowledge of the complex pediatric surgery topics below:</p> <ul style="list-style-type: none"> ▪ Anorectal malformation ▪ Biliary atresia ▪ Choledochal cyst ▪ Congenital diaphragmatic hernia ▪ Cystic pulmonary airway malformation ▪ Esophageal atresia with or without TEF 	<p>Demonstrates expertise in specific area(s) of pediatric surgery, and/or contributes substantially to the literature</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not yet achieved Level 1 <input type="checkbox"/>

Demonstration of knowledge of topics can be evaluated through tools such as: 1) PedScore modules; 2) multiple choice questions; and 3) discussion of open-ended questions with faculty members.

General Knowledge Assessment — Medical Knowledge				
Level 1	Level 2	Level 3	Level 4	Level 5
<p>Demonstrates knowledge of embryology, anatomy, and physiology of basic topics</p> <p>Discusses initial diagnostic and treatment recommendations for basic topics, including those that require urgent management</p> <p>Discusses potential complications and their management, as well as expected outcomes for basic topics</p>	<p>Demonstrates knowledge of embryology, anatomy, and physiology of intermediate topics</p> <p>Discusses initial diagnostic and treatment recommendations for intermediate topics, including those that require urgent management</p> <p>Discusses potential complications and their management, as well as expected outcomes for intermediate topics</p>	<p>Demonstrates knowledge of embryology, anatomy, and physiology of advanced topics</p> <p>Discusses initial diagnostic and treatment recommendations for advanced topics, including those that require urgent management</p> <p>Discusses potential complications and their management, as well as expected outcomes for advanced topics</p>	<p>Demonstrates knowledge of embryology, anatomy, and physiology of complex topics</p> <p>Discusses initial diagnostic and treatment recommendations for complex topics, including those that require urgent management</p> <p>Discusses potential complications and their management, as well as expected outcomes for complex topics</p>	<p>Demonstrates significant command of the literature, including novel therapeutic interventions and outcomes</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Comments:</p>				<p>Not yet achieved Level 1 <input type="checkbox"/></p>

Healthcare Delivery and Cost – Systems Based Practice				
Level 1	Level 2	Level 3	Level 4	Level 5
Understands cost implications of clinical decisions	Articulates risk-benefit analysis, including cost to patient	Incorporates cost considerations into clinical decisions	Leads efforts to reduce costs by reducing variations in care	Develops or institutes a cost efficient clinical pathway which reduces cost of patient care
Understands how to appropriately utilize mid-level and other health care providers to optimize the delivery of care to children (inpatient, outpatient, on call, rounding)	Incorporates risk management in pediatric surgery	Understands the principles of insurance coverage and access to care for children	Understands the concept of work relative value units (RVUs) and physician compensation	Advocates on a national or regional level for health care policy
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				

Patient Safety — Systems-based Practice				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates an understanding of the importance of patient safety and the occurrence of medical errors in pediatric surgery patients Participates in an effective patient hand-off and surgical time-out process	Recognizes medical errors as systemic events and facilitates reporting in a blame-free environment Anticipates the inherent risk of medical errors as a result of inadequate patient hand-off and surgical time-out	Suggests improvements to reduce medical errors Anticipates potentially dangerous situations and intervenes	Leads multidisciplinary efforts to improve patient safety at the division and/or hospital level	Participates as an advocate on a regional or national level for pediatric patient safety Designs evidence-based clinical pathway to decrease medical errors
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not yet achieved Level 1 <input type="checkbox"/>

Systems-based Documentation — Systems-based Practice				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates commitment to maintaining medical records	Accurately and promptly documents daily patient care within the institutional documentation system	Effectively uses medical record system to synthesize complex patient information	Effectively uses medical record system to answer a clinical research question or complete a quality improvement project	Works with the electronic medical record professional team to solve problems in the medical record system
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not yet achieved Level 1 <input type="checkbox"/>

Evidence-based Medicine — Practice-based Learning and Improvement				
Level 1	Level 2	Level 3	Level 4	Level 5
Incorporates evidence-based guidelines into clinical decisions	Understands the quality and limitations of available literature and data	Synthesizes a clinical plan from multiple sources of evidence	Demonstrates utilization of evidence derived from a database or registry in changing his or her practice pattern	Formulates an outcomes-based quality improvement project to answer a clinical question
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not yet achieved Level 1 <input type="checkbox"/>

Self-directed Learning — Practice-based Learning and Improvement				
Level 1	Level 2	Level 3	Level 4	Level 5
<p>Takes responsibility for actions and acknowledges errors</p> <p>Directs the discussion at morbidity and mortality conference with an understanding of the severity of the complication presented (e.g., selects cases to be presented, performs appropriate literature search)</p>	<p>Committed to self-improvement; responds well to feedback</p>	<p>Is self-reflective about own academic, professional, and personal needs, strengths, and limitations</p>	<p>Analyzes and interprets own experience, and uses the literature to alter practice pattern</p>	<p>Displays a commitment to lifelong learning (e.g., routinely surveys literature, engages in continuing medical education [CME] activities, actively publishes)</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Comments:</p>				<p>Not yet achieved Level 1 <input type="checkbox"/></p>

Integrity — Professionalism				
Level 1	Level 2	Level 3	Level 4	Level 5
<p>Demonstrates an understanding of the basic cognitive and ethical components of professionalism</p> <p>Demonstrates fundamental aspects of medical professionalism, including confidentiality, respect for patient choice, citizenship (e.g., medical record completeness, timeliness, arrives on time for work, etc.), and individual responsibility to the team</p>	<p>Thinks like a professional by demonstrating behavioral and social components of professionalism</p> <p>Demonstrates compassion and empathy for patients; his or her work is noted for integrity, responsibility, commitment, and reliability under most circumstances</p>	<p>Acts like a professional who recognizes limitations, accepts feedback, and is effective at managing difficult clinical situations</p> <p>Demonstrates integrity, altruism, and individual responsibility to the patient, family, and team under all circumstances; serves as an advocate for quality patient care</p>	<p>Leads as a professional by managing him- or herself and his or her team and patients</p> <p>Serves as a role model for honesty, integrity, and professionalism; patient needs supersede self-interest</p>	<p>Mentors others in areas of professionalism</p> <p>Mentors and teaches integrity, altruism, individual responsibility, and professionalism</p> <p>Understands the ethical implications of incorporating new surgical skills and techniques into practice</p>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not yet achieved Level 1 <input type="checkbox"/>

Recognition of Limits — Professionalism				
Level 1	Level 2	Level 3	Level 4	Level 5
Overestimates ability; rarely asks for help when needed	Recognizes when uncomfortable with tasks; asks for, and waits for help	Is self-aware of limitations; anticipates situations that may be beyond his or her ability, and plans accordingly	Never takes on tasks beyond own ability; reliably asks for help when needed Organizes multidisciplinary teams to optimize patient care	Mentors and educates others in discovering and acknowledging their strengths and limitations
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not yet achieved Level 1 <input type="checkbox"/>

Behavior and Respect — Professionalism				
Level 1	Level 2	Level 3	Level 4	Level 5
Few complaints related to behavior	No complaints related to behavior; rarely displays lapses in compassion and respectfulness even in difficult, stressful, and highly demanding situations	Consistently compassionate and respectful of patients, families, and other health care workers even in difficult, stressful, and highly demanding situations	Serves as a role model for respect and compassion towards patients, families, and other health care workers	Mentors others in behavior which is respectful and compassionate to patients, families, and other health care workers
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not yet achieved Level 1 <input type="checkbox"/>

Leadership — Professionalism				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates an understanding of his or her role on team; works effectively with others on the team	Organizes people and leads the pediatric surgery team	Demonstrates leadership skills in adverse environments; demonstrates best practices for managing one's team	Demonstrates advanced skills in leading a broad, multidisciplinary team and in managing the needs of the team members; motivates the team to high performance	Models to and teaches others to be leaders, and develops the talents of others
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not yet achieved Level 1 <input type="checkbox"/>

Collaborator — Interpersonal and Communication Skills				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates an understanding of the importance of effective communication with other providers	Communicates effectively with attending staff members, peers, and other health care providers, including during transfer to other services and multidisciplinary rounds	Resolves disagreements with other health care providers in a professional manner	Negotiates and manages conflict among care providers Communicates effectively in times of crisis	Is viewed as an exemplary communicator, problem solver, and ambassador for the pediatric surgery service in the children’s hospital
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not yet achieved Level 1 <input type="checkbox"/>

Patient- and Family-centered Care — Interpersonal and Communication Skills				
Level 1	Level 2	Level 3	Level 4	Level 5
Demonstrates an understanding of the value of patient- and family-centered care Demonstrates sensitivity in caring for culturally diverse patients	Communicates effectively with patients and families in the inpatient and outpatient settings, including in obtaining informed consent Uses translation services appropriately	Demonstrates effective communication with difficult families	Customizes emotionally and ethically difficult information, such as palliative care discussions	Serves on local, regional, or national committees addressing ethical or advocacy issues
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comments:				Not yet achieved Level 1 <input type="checkbox"/>