

# Chapter Two

## Skills: Basic and Pediatric-Specific

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### INTRODUCTION

This chapter of the Global Pediatric Curriculum provides an overview of the essential skills that should be mastered during training. GPEC believes that some of these skills are necessary to be mastered during training, while others need only be exposed to the student during training. Therefore, each section of this chapter contain preamble statements of what a trainee 1) MUST be able to do or SHOULD be able to do, or 2) should be FAMILIAR with or have EXPOSURE to, in order to be well-grounded in general pediatric care.

Most if not all of these skills are covered throughout the Patient Care chapter (Chapter 3) in the context of the clinical encounter. This chapter is meant to provide faculty and residents with the highlights of those skills.

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## Assessment and Diagnostic Skills

<b>General</b>	
By the end of training a resident <b>should</b> :	
History	<p>Be able to:</p> <ul style="list-style-type: none"> <li>Gather essential and accurate information about the patient and the presenting complaint(s)</li> <li>Interview patients/families about the particulars of the medical condition for which they seek care, with specific attention to behavioral, psychosocial, environmental, genetic, and family unit correlates of disease</li> </ul>
Physical	<p>Be able to:</p> <ul style="list-style-type: none"> <li>Perform a physical examination on newborn infants, which includes assessment of gestational age and the appropriateness of intrauterine growth</li> <li>Perform complete, accurate, and developmentally appropriate physical examinations for children, adolescents, and young adults</li> <li>Use growth charts appropriately</li> <li>Assess nutritional status</li> <li>Assess Tanner staging for sexual maturity rating</li> <li>Perform a complete genital examination</li> <li>Administer and interpret developmental screening tests</li> <li>Assess psychomotor development and developmental milestones</li> <li>Assess mental status</li> <li>Assess an adolescent using comprehensive screening, counseling guidelines, and decision tools</li> </ul>
Diagnosis	<p>Be able to:</p> <ul style="list-style-type: none"> <li>Develop a differential diagnosis and make informed diagnostic decisions</li> <li>Ensure patient safety for investigations including procedures</li> </ul>
Management	<p>Be able to:</p> <ul style="list-style-type: none"> <li>Assess and formulate a plan of management for common pediatric conditions</li> <li>Assess caloric requirement in various clinical situations</li> <li>Counsel patients (children and youth) and parents about indications,</li> </ul>

	<p>contraindications and complications of procedures proposed as part of the management plan</p> <p>Obtain informed consent</p> <p>Assess the medical and non-medical needs and formulate a follow-up plan of children with chronic conditions</p> <p>Recognize when referral is needed and refer to other specialties appropriately</p> <p>Counsel parents and address their concerns on different health issues including normal growth, nutrition, development, and behavior</p> <p>Provide anticipatory guidance to patients and parents</p> <p>Counsel parents regarding available community support and resources as necessary</p>
<p><b>Routine laboratory tests and age specific ranges</b> By the end of training the resident <b>should:</b></p>	
	<p>Be able to interpret the following routine laboratory tests and be familiar with the age specific ranges for each:</p> <ul style="list-style-type: none"> <li>Blood analysis</li> <li>Urine analysis</li> <li>Stool analysis</li> <li>Cerebrospinal fluid (CSF) analysis</li> <li>Fluid analysis (eg, joint, pleural)</li> <li>Tuberculin skin testing</li> </ul>
<p><b>Routine pediatric imaging and other tests</b> By the end of training the resident <b>should:</b></p>	
	<p>Be able to interpret routine pediatric imaging and other tests such as:</p> <ul style="list-style-type: none"> <li>Chest X-ray</li> <li>Abdominal X-ray</li> <li>Bone X-rays</li> <li>Electrocardiograms</li> <li>Oximetry</li> <li>Peak flow</li> </ul>
<p><b>Additional imaging modalities</b> By the end of training the resident should:</p>	
	<p>Be familiar with the use and interpretation of:</p>

	<p>Ultrasound scanning</p> <p>Radiologic contrast studies</p> <p>Echocardiography</p> <p>CT/MRI imaging</p>
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## Basic Therapeutic Skills

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### Therapeutic management activities

By the end of training residents should:

Participate in the following, with appropriate involvement of other health care team members:

Breast feeding assessment and counseling on appropriate technique of breast feeding and management of common breast feeding problems

Administration of injections using safe injection practices

Determination of volume and composition of intravenous fluids and their administration

Administration of surfactant

Nebulization therapy

Pain management

Blood and blood component therapy

Phototherapy

Partial and complete exchange transfusions

Nasogastric feeding

Nutritional evaluation and counseling

Vaccination

Cervical spine immobilization (post trauma)

Newborn resuscitation

Evaluation of sexually transmitted infections (STI)

Contraceptive management

Management of bleeding

Smoking/tobacco counseling

Family counseling

Palliative care

Counseling for behavior changes

Be able to:

Perform successful airway management including that of the choking

	<p>child</p> <p>Perform cardiopulmonary resuscitation including management of abnormal cardiac rhythms, use of the defibrillator, and drugs</p> <p>Implement fluid resuscitation and the management of shock</p> <p>Undertake stabilization of the acutely sick child</p> <p>Lead organization of the resuscitation team</p> <p>Preserve cerebral function in an ill or comatose child</p>
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## Basic Procedural Skills

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### Performing basic procedures

By the end of training residents should:

Be able to successfully perform the following procedures:

Hand washing and aseptic techniques

Blood pressure measurement

Arterial puncture for blood gas analysis

Phlebotomy (ie, venipuncture for obtaining blood samples)

Umbilical artery and vein catheterization

Placement of peripheral intravenous lines

Intraosseous access for resuscitation

Ventilation techniques (eg, bag/mask)

Oximetry

Basic lung function tests (eg, FEV)

Endotracheal intubation for neonates through young adults

Cardiopulmonary resuscitation for neonate through young adults

Otoscopy with insufflations

Ophthalmoscopy

Electrocardiogram (perform and evaluate)

Microscopy (Urinalysis, Sputum, Cervical mucus)

Bedside measurement of blood glucose

Lumbar puncture

Bladder/urethral catheterization

Suprapubic aspiration of bladder

Chest tube placement/ thoracentesis

Gastric lavage

Placement of gastric tube (oro and naso)

Wound care and suturing of lacerations

Subcutaneous, intradermal, and intramuscular injections

Procedural sedation

	<p>Pain management</p> <p>Reduction and splinting of simple dislocations/fractures</p>
<p><b>Exposure to basic procedures</b> By the end of training residents should:</p>	
	<p>Have a thorough exposure to the following procedures:</p> <ul style="list-style-type: none"> <li>Placement of central venous lines (PICC/PCVC) and CVP monitoring</li> <li>Drainage techniques (arthrocentesis, thoracentesis, paracentesis)</li> <li>Tracheostomy tube care and replacement,</li> <li>Incision and drainage of superficial abscesses</li> <li>Tympanometry and audiometry interpretation</li> <li>Bone marrow aspiration</li> <li>Pelvic exam including speculum exam</li> <li>Vision screening</li> <li>Hearing screening</li> <li>Simple removal of foreign bodies (eg, eyes, ears, nose)</li> <li>Pulmonary function testing</li> <li>Mechanical ventilation</li> <li>Continuous positive airway pressure (CPAP) ventilation</li> <li>Comprehensive developmental screening</li> <li>Inhalation medications</li> <li>General aseptic techniques</li> <li>Temperature monitoring</li> <li>Cardioversion</li> <li>Skin allergy testing</li> <li>Exchange transfusion</li> <li>Peritoneal dialysis</li> </ul>