

# Part One

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## Pediatric Endoscopy Setting

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# Introduction

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Esophagogastroduodenoscopy (EGD) was an exotic procedure in children until the mid-70s when prototypes of pediatric flexible gastro- and panendoscopes became commercially available. Within the next few years, hundreds of pediatric EGDs were performed in Europe and the US leaving no doubts about safety, high-efficacy and cost-effectiveness of upper gastrointestinal (GI) endoscopy in children.

Over the next ten years, EGD and ileocolonoscopy became routine diagnostic and therapeutic procedures for pediatric gastroenterologists around the world.

Flexible gastrointestinal endoscopy is a unique method of investigation of the GI tract. It combines direct visualization of the GI tract with a target biopsy, application of different dyes, endoluminal ultrasound, injection of contrast materials with various therapeutic procedures. By definition, it is an invasive procedure. When applied to pediatric patients, safety becomes the major priority. In order to minimize morbidity associated with pediatric GI endoscopy, the endoscopist, especially the beginner, should familiarize themselves with all technical aspects of the procedure including:

- Endoscopic equipment: endoscopes, light sources, biopsy forceps, snares, graspers, needles, electrosurgical devices and all other accessories

- Appropriate setting for the endoscopic equipment and doses of commonly used medications and solutions such as epinephrine, glucagon and sclerosing agents.
- Proper techniques of basic diagnostic and therapeutic procedures.

In addition, a pediatric gastroenterologist should also become familiar with age-related characteristics of the esophagus, stomach, duodenum, and common adoptive reactions induced by intubations of the esophagus and insufflation and stretching of the stomach and the colon.

The evolution of the equipment and technological innovations of the last decade opened the door to the new diagnostic and therapeutic procedures in pediatrics such as double-balloon enteroscopy, confocal laser endomicroscopy, removable and biodegradable stents for treatment of refractory esophageal strictures, and endoscopic treatment of gastroesophageal reflux disease.

We believe that the second edition of *Practical Pediatrics Gastrointestinal Endoscopy* will serve as a perfect guide to trainees, simplifying the learning process of basic endoscopic techniques and highlighting the important background data, technical aspects and outcomes of new endoscopic procedures in children to both pediatric and adult gastroenterologists.