



## Endoscopic Examination of the Stomach

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### Abstract

Gastroscopy is performed using a long, thin, and adaptable instrument called a gastroscope. This endoscopic instrument has a camera and LED light at its tip, which permits the insides of the organs to be straightforwardly seen on a screen. The instrument is embedded into the stomach related tract through the mouth with consistent discuss infusion to grow the inner organs and permit them to be enough seen. It is called the "Gold Standard" since it can affirm or run the show out the presence of a disease with awe-some certainty. If a suspicious alter is found, tests can be taken for histopathological examination. Gastroscopy is moreover vital in checking the reaction to the connected medication or other shape of treatment. The strategy permits for concurrent helpful activity in a few cases, hence dodging surgical treatment.

**Keywords:** Endoscopy; Gastroscopy; Stomach; Examination; Health

### Introduction

Endoscopy ought to be ended rapidly if the persistent appears trouble for which the cause is not instantly self-evident and remediable [1]. If consolation does not calm the persistent, evacuate the instrument and consider giving extra sedation or absense of pain. Incidental bronchoscopy can happen if addition is done by the "blind" strategy, and it is self-evident from the unusual view and impressive coughing. Distress may emerge from unseemly weight during intubation or from distension due to over the top insufflation. Keep in mind to keep swelling to a least and to suction all the CO<sub>2</sub>/air at the end of the method. Serious pain during endoscopy is exceptionally uncommon and demonstrates an unfavorable occasion such as aperture or a cardiac occurrence. It is extremely unsafe to disregard caution signs. Tachycardia and bradycardia may both demonstrate distress.

### Gastric Cancer

Adenocarcinoma is by distant the most common gastric danger and speaks to around 90% of all gastric malignancies [2]. Diagnosis is come to through clinical doubt such as ulcerations, strictures, Barrett esophagus, and neoplasms. Barium ponders, besides, may be greatly valuable in evaluating symptomatic patients after antireflux surgery.

Early esophagitis in patients with GERD (gastroesophageal reflux disease) is showed by a fine nodular or granular appearance with little well-defined radiolucencies caused by mucosal edema. In more progressed disease, contrast-filled ulcers may be display close the gastroesophageal intersection on the back esophageal divider and peptic strictures may be identified in the distal esophagus over a hiatal hernia. The classic signs of Barrett esophagus incorporate a tall, midesophageal stricture, ulcer, or reticular pattern.

Infectious esophagitis is most habitually experienced in patients who are immunocompromised; among the conceivable irresistible operators are *Candida albicans*, herpes simplex infection, cytomegalovirus (CMV), and HIV (human immunodeficiency virus). *Candida* esophagitis (moniliasis) is regularly showed on barium considers as discrete, direct, plaque-like injuries isolated by ordinary interceding mucosa, with a preference for the upper and midesophagus. Herpes esophagitis appears the nearness of little barium-filled ulcers on a ordinary foundation mucosa, whereas CMV and HIV esophagitis are showed by mammoth, level ulcerations that are regularly a few centimeters in length.

### Systematic endoscopic examination

Gastric cancer screening ought to be considered for patients who are at tall chance of creating gastric adenocarcinoma [3]. A orderly survey and meta-analysis illustrated that endoscopic screening was connected to a 40% relative hazard diminishment in mortality from gastric cancer. High-risk populaces incorporate patients with prove on earlier biopsy of inveterate atrophic gastritis (AG) or intestinal metaplasia (IM), those with a family history of gastric cancer in a first-degree relative, or those who begun from high-risk locales, such as nations in Eastern Europe, East Asia, and South America. High-risk patients are frequently alluded for upper endoscopies for gastric cancer screening, either at age 50 or 10 years some time recently the age of conclusion for a first-degree relative. With respect to these patients, they ought to experience precise endoscopic examination and biopsies beneath the Sydney convention, which involves five distinctive locales of biopsies in two distinctive bottles. Three of the locales are in the distal stomach, with biopsies all collected into one bottle from areas in the A1 (3 cm from the pylorus in the antral lesser ebb and flow), A2 (3 cm from the pylorus in the antral more noteworthy ebb and flow), and IA (incisura angularis) districts. The moment bottle ought to comprise of biopsies from two extra locales in the B1 (center of the gastric body, lesser curvature) and B2 (center of the gastric body, more noteworthy curvature) locales. Endoscopic discoveries concerning for atrophic gastritis or intestinal metaplasia ought to be clearly recorded and separated based on area, in specific, whether the association is essentially in the distal stomach (i.e., antrum and incisura), in the proximal stomach (i.e., gastric body), or both, as more proximal association does increment the chance of movement to gastric adenocarcinoma.

Any extra focused on biopsies ought to be gotten from any destinations of concern (e.g., changes in color [red or white zones] and shape [discouraged or hoisted ranges]) recognized on white light endoscopy (WLE). These destinations ought to moreover be assessed by chromoendoscopy and image-enhanced endoscopies (IEE), such as narrowband imaging (NBI) and blue light imaging (BLI). A least examination time of 7 min ought to be performed to discover little dysplastic injuries during a gastric cancer screening.

If *H. pylori* are display, but there is no prove of AG or IM, at that point the quiet ought to be endorsed destruction treatment and planned for follow-up endoscopy in 3–5 years. If AG/IM is display or there is solid family history in a first-degree relative, at that point patients ought to be planned for reconnaissance endoscopy for a shorter term of 1–2 years. The 1-year interim ought to be considered if an adenomatous polyp is, and it ought to be abbreviated to 6 months in case of high-grade dysplasia. If there is not one or the other a family history nor the nearness of AG/IM/*H. pylori*, at that point no assist follow-up is required.

### GIST

Gastrointestinal stromal cell tumors (GISTs), emerging from the interstitial cells of Cajal, are once in a while found unexpectedly at endoscopy and account for 1%–2% of gastrointestinal neoplasms [4]. They are separated from other mesenchymal tumors by expression of the c-kit proto-oncogene, which encodes a tyrosine kinase receptor. These tumors, especially the littler injuries of less than 2 cm, are more often than not kind and asymptomatic, but bigger ones may have harmful potential and may sometimes be mindful for dyspepsia, ulceration and gastrointestinal bleeding. Little injuries (< 2 cm) are ordinarily checked by endoscopy, whereas bigger ones require surgical resection. Exceptionally expansive injuries ought to be treated pre-operatively with imatinib (a tyrosine kinase inhibitor) to diminish their measure and make surgery simpler. Imatinib can moreover give delayed control of metastatic GISTs. Sunitinib and regorafenib are utilized as second-line agents.

A assortment of diverse sorts of gastric polyps happen. Fundic organ polyps are common and more often than not not related with an expanded chance of threat, other than in the setting of familial adenomatous polyposis (FAP). Hyperplastic polyps are also common, with relapse for the most part happening after H. pylori destruction. Adenomatous polyps are uncommon but have dangerous potential and ought to be evacuated endoscopically with ensuing observation by occasional endoscopy.

Occasionally, gastric neuro-endocrine (carcinoid) tumors are seen in the fundus and body in patients with long-standing vindictive frailty. These generous tumors emerge from ECL (enterochromaffin-like) or other endocrine cells, and are frequently different, but once in a while intrusive. Not at all like carcinoid tumors emerging somewhere else in the gastrointestinal tract, they ordinarily run a generous and ideal course. Expansive (> 2 cm) carcinoids may, be that as it may, metastasise and ought to be evacuated. Once in a while, little nodules of ectopic pancreatic exocrine tissue are found. These 'pancreatic rests' may be mixed up for gastric neoplasms and ordinarily cause no side effects. EUS (Endoscopic ultrasound) is the most valuable investigation.

## EUS

Endoscopic ultrasound (EUS) combines endoscopy with intraluminal ultrasonography utilizing a high-frequency transducer to create high-resolution ultrasound picture [4]. This permits representation through the divider of the gastrointestinal tract and into encompassing tissues, e.g. the pancreas or lymph hubs. It can subsequently be utilized to perform fine needle goal or biopsy of mass injuries. EUS is supportive in the diagnosis of pancreatic tumors, persistent pancreatitis, pancreatic sores, cholangiocarcinoma, common bile conduit stones, ampullary injuries and submucosal tumors. It moreover plays an vital part in the arranging of certain cancers, e.g. those of throat and pancreas. The part of EUS as a helpful methodology has expanded, and can be utilized in the seepage of pancreatic liquid collections and coeliac plexus piece for torment administration. Conceivable complications of EUS incorporate dying, contamination, cardiopulmonary occasions and perforation.

## Stomach injuries

Most wounds of the stomach can be repaired [5]. Huge wounds, such as those from shotgun impacts, may require subtotal or add up to resection. Disappointment to distinguish back stomach divider wounds by opening the lesser space is a entanglement to protect against.

Duodenal wounds may not be apparent from the beginning physical examination or x-ray thinks about. Stomach films will uncover retroperitoneal gas inside 6 hours after damage in most patients. CT performed with a differentiate operator will habitually distinguish the location of puncturing. Most duodenal wounds can be treated with sidelong repair. A few may require resection with end-to-end anastomosis. Once in a while, pancreaticoduodenectomy or duodenal redirection with gastrojejunostomy and pyloric closure is required to oversee a serious damage. A duodenostomy tube is valuable in decompressing the duodenum and can be utilized to control a fistula caused by an harm. Jejunal or omental patches may also help in avoiding a suture line spill. A distal jejunostomy bolstering tube is accommodating in the long-term recuperation from these injuries.

Duodenal hematomas causing high-grade obstacle as a rule resolve with nonoperative administration. Patients may require add up to parenteral sustenance. In a few cases, a small-bore enteral bolstering tube can be passed past the zone of hindrance utilizing interventional radiology methods. Huge hematomas may require agent departure, especially when the obstacle endures for more than 10-14 days and a determined hematoma is seen on CT scan.

Most little bowel wounds can be treated with a two-layer sutured closure, in spite of the fact that mesenteric wounds driving to devascularized portions of little bowel will require resection. The fundamental rule is to protect as much little bowel as possible.

For wounds to the colon, the past approach has been to occupy the fecal stream or exteriorize the harm. Be that as it may, more later thinks about have appeared a higher complication rate with colostomy arrangement than with essential repair. Wounds ought

to be considered for essential repair if the blood supply is not compromised. Essential repair is more likely to be related with complications in patients with continuous stun, in those requiring numerous transfusions, if more than 6 hours slip by between harm and operation, or if there is net defilement or peritonitis. Little, clean rectal wounds may be closed essentially if conditions are favorable. The treatment of bigger rectal wounds including pelvic break ought to incorporate proximal preoccupation. Addition of presacral channels is discretionary. In this last mentioned case, coordinate repair of the rectal damage is not obligatory but ought to be performed if it can be promptly uncovered. Water system of the distal stump ought to be performed in most cases unless it would advance sully the pelvic space.

### Scope

When the patient is adequately sedated, a self-retaining mouth protect is put and the understanding is backed in a cleared out lateral/semiprone position [6]. This position encourages intubation and examination of the upper GI tract with the sideviewing duodenoscope.

With the understanding in the inclined position, slight cleared out turn of the scope is required to adjust for the alter in pivot. Delicate descending tip angulation permits examination of the distal esophagus. Once in the stomach, the gastric juice is evacuated by suction to minimize the hazard of yearning. The stomach is swelled somewhat to permit an satisfactory see of the lumen.

The endoscope is gradually progressed with the tip calculated downwards looking at the more noteworthy bend and distal stomach. With assist headway, the scope will pass the precise incisura. The cardia can be inspected by up angulation and withdrawal of the scope.

Once past the precise incisura the tip of the scope is advance calculated downwards and the pylorus is visualized. The scope is situated so that the pylorus lies in the center of the field. The tip of the endoscope is at that point returned to the impartial position as the pylorus vanishes from the endoscopic view, the so-called 'sun-setting sign'.

Gentle pushing will progress the scope into the to begin with portion of the duodenum. The scope is calculated downwards once more and discuss is insufflated to swell the duodenum. Care must be taken to dodge overinflating the duodenum as this causes quiet inconvenience and makes the strategy more troublesome. Cautious examination is performed to run the show out any pathologies such as ulcers or duodenitis. The scope is pushed advance to the intersection of the to begin with and moment portion of the duodenum.

At this point, the scope is calculated to the right and upwards, and by turning the scope to the right and pulling back gradually, the tip of the scope is progressed into the moment portion of the duodenum. This confusing development abbreviates the scope utilizing the pylorus as a turn, bringing it into the classical 'short scope position'. The markings on the duodenoscope ought to demonstrate 60–65 cm at the incisors.

With the understanding inclined, and the scope returned to a impartial position, the papilla can be effortlessly visualized, in the center of the moment parcel of the duodenum. The point of interest for distinguishing proof of the papilla is the intersection where the flat folds meet the vertical crease. Duodenal diverticula may cause troubles with cannulation as the papilla may be found on the edge or seldom interior a diverticulum.

### Emergency endoscopy

It is basic that an endoscopic examination of the throat, stomach and duodenum is carried out as rapidly as conceivable beneath seriously care conditions with observing and pulsoximetry [7]. The term "emergency endoscopy" is in reality deluding since upper gastrointestinal bleeding continuously constitutes an crisis and calls for quick hospitalization and quick demonstrative clarification.

The essential destinations of beginning endoscopy are: (1.) exact recognizable proof of the area of the bleeding, (2.) assessment of the bleeding movement, (3.) evaluation of the threat of repetitive bleeding, and (4.) collection of coexisting discoveries. Endoscopy is 90-95% dependable in clarifying these questions (in the event that essential, rehashed inside a period of 12 to 24 hours). The

auxiliary objective is to choose on the restorative results, such as preservationist and/or nearby treatment, or surgical mediation. To this conclusion, the utilize of endoscopy with the plausibility of synchronous treatment is the strategy of choice, for which there is no practical alternative.

The grounds for the essential utilize of endoscopy to clarify upper (and lower) gastrointestinal bleeding are: (1.) endoscopy is recognized as the strategy which uncovers the most conclusive data; (2.) this demonstrative strategy moreover gives the opportunity of utilizing different endoscopic procedures to impact local haemostasis; (3.) endoscopic methods are more likely to be promptly accessible than scintigraphy or specific angiography; (4.) endoscopy is essentially more prudent in terms of time and taken a toll than scintigraphy or arteriography; (5.) endoscopy is less upsetting for the persistent and less obtrusive than angiography.

Complications cannot be ascribed to endoscopy itself, but to the pre-existing conditions: localized apertures, dangers related with desire, cardiac issues, brought down blood weight, etc. Premedication may hence be unseemly in person cases, and endotracheal intubation or endotracheal anesthesia is at that point indicated.

## View

The endoscopist may gotten to be confused and the instrument circled in patients with inherent malrotations or major pathology (e.g. achalasia, expansive diverticula, hernias) or after complex surgery [1]. Cautious think about of any accessible radiographs may offer assistance. The most common reason for confusion in patients with ordinary life structures is lacking insufflation due to a imperfection in the instrument, CO2 insufflator or discuss pump (which ought to have been identified some time recently beginning the examination). Unpracticed endoscopists regularly get misplaced in the fundus, particularly when the stomach is calculated intensely over the vertebral column. Having passed the cardia, the instrument tip ought to be diverted to the endoscopist's cleared out (counterclockwise) and marginally descending. A off-base turn to the right (clockwise) will bring the tip back up into the fundus. When in question, pull back, insufflate, and turn strongly cleared out (counterclockwise) to discover the genuine lumen. A inquisitive endoscopic see may demonstrate aperture (which

is not continuously instantly agonizing). If a obvious aperture is identified (nearness of a gap, bulge of yellow peritoneal fat, or a view of peritoneal organs), there are a few quick restorative mediations that may be utilized by an experienced, progressed endoscopist to near the imperfection, counting over-the-scope metal clips and endoscopic suturing. When such ability is not promptly accessible, or if no gap is seen but there remains any question almost a conceivable puncturing, forsake the examination and get radiological studies.

Lack of a clear see implies that the focal point is lying against the mucosa or is darkened by liquid or nourishment debris. Pull back marginally and insufflate; twofold check that the CO2/air pump is working and that all associations are firm with O-rings display. Attempt washing the focal point with the ordinary finger-controlled water jet. This may not be viable if the instrument focal point is secured by debris (or by mucosa that has been sucked onto the opening of the biopsy channel). Weight can be discharged by brief evacuation of the elastic valve of the biopsy harbour, but it may be essential to flush the channel with water or discuss utilizing a syringe. Little amounts of nourishment or bodily fluid clouding an range of intrigued can be washed absent with a jet of water. Frothing can be stifled by including a weakened emulsion of silicone (simethicone).

As most patients comply with enlightening to quick some time recently strategies, the nearness of over the top nourishment buildup is an imperative sign of outlet obstacle or gastroparesis. Standard endoscope channels are as well little for yearning of nourishment; drawn out endeavors basically result in blocked channels. The instrument can ordinarily be guided along the lesser curvature over the best of the nourishment to permit a look for a distal discouraging injury. The more prominent curvature can also be inspected, if fundamental, by pivoting the understanding into the right horizontal position. Be that as it may, any examination in the nearness of abundance liquid or nourishment carries a critical chance of spewing forth and aspiratory desire so aviation route security by means of an endotracheal tube is suggested. The endoscopist ought to endure as it were if the quick benefits are thought to legitimize the chance. It is ordinarily more shrewd to halt and to rehash the examination as it were after appropriate gastric lavage.

## Gastroscopy

Gastroscopy is an imperative symptomatic and prognostic apparatus in the assessment of a caustic injury, especially during the first 12–48 hours of caustic ingestion [8]. It is contraindicated in patients with haemodynamic flimsiness, extreme respiratory compromise, and suspected holes. In the nonattendance of side effects, critical injuries are regularly not seen endoscopically. New endoscopy is prescribed in symptomatic people and in those with purposefulness ingestions of caustic substances.

Endoscopy is the gold standard in conclusion and forecast in caustic ingestions. It moreover guides administration. Zargar's classification is most commonly utilized to review seriousness of caustic injury. Grades 0–II A by and large recoup without sequelae. Grades IIB–III in the long run create oesophageal or gastric scarring, which may result in stricture arrangement. The degree of oesophageal damage endoscopically is a indicator of horribleness and mortality with a ninefold increment with each damage grade.

Emergent endoscopy is performed after the patient's hemodynamic status has been suitably stabilized (usually inside 12–24 hours) [9]. In patients with dynamic bleeding, endotracheal intubation is commonly performed to ensure against desire during endoscopy. An endoscopic examination is performed to affirm esophageal varices are the likely source of GI bleeding and to avoid other or related causes. In numerous patients, variceal bleeding has ceased suddenly by the time of endoscopy, and the conclusion of variceal bleeding is made hypothetically. Quick endoscopic treatment of the varices for the most part is performed with banding. Banding captures dynamic bleeding in 80–90% of patients and diminish the chance of in-hospital repetitive bleeding to approximately 20%.

## Conclusion

Endoscopy is performed for a few reasons. First, it permits for a coordinate view of the inner organs, beneath tall amplification and brightening of the stomach related tract mucosa, with the plausibility of taking a pathohistological test of the watched alter or indeed expelling the alter itself, depending on its measure and morphology. This can give profitable data that cannot be gotten by other strategies. Moment, endoscopy can permit for the parallel usage of helpful activities, such as expelling polyps

or stopping bleeding, without the require for obtrusive surgery. At last, endoscopy can be valuable for observing the viability of treatment and checking the advance of the infection. In any case of the reason, endoscopy is an vital apparatus that permits for the best conceivable care to be given to the understanding. Endoscopy is the as it were strategy that can be utilized to dependably analyze illnesses of the gastrointestinal framework, i.e. the stomach, duodenum and colon, and subsequently to start satisfactory and timely therapy in a timely manner.

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