The sensor records pH values twice every second (2 Hz), and it features a hydration monitor to eliminate data if the tip dries out.

Placement Protocol

The equipment needed for placement of the pH catheter includes: tissues, a cup of water with straw, precut tape (to tape catheter to nose), an emesis basin, lubricating jelly, gauze pads, a topical anesthetic such as lidocaine jelly, long cotton-tipped applicators to administer the topical anesthetic, and the pH monitoring equipment. Table 3-3 provides details of the protocol for placement of the traditional esophageal pH catheter.

Patient Instructions

Patients should be instructed to carry out their normal activities without any restrictions. They should be instructed to continue with their normal diet and avoid showers or baths during the 24-hour recording so as not to get the recording equipment wet. Patients should be instructed to keep a diary during the 24-hour monitoring period. The components of the diary should include:

- Beginning and end times of any meal or snack
- Beginning and end times of when patient is in supine position, especially sleeping
- Record onset of time of any symptoms (predominant presenting symptom) thought to be related to acid reflux (ie, heartburn, regurgitation, cough, chest pain)
- Record times of medications taken such as PPIs, H₂RAs, and antacids

Patients should be instructed regarding possible problems that can occur during the 24-hour monitoring period. Rhinorrhea is a common occurrence. They should be instructed to blow their nose carefully or use antihistamines or other decongestants. Patients should be

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**Table 3-3—Distal Esophageal pH Catheter Placement Protocol**

- Explain the procedure of how the pH catheter will be placed.
- Identify the lower esophageal sphincter using esophageal manometry.
- Position the patient in sitting position on chair or stretcher.
- Anesthetize the patient’s preferred nasal cavity (take precaution if the patient has a deviated septum and use the nondeviated side) by placing a cotton-tipped applicator dipped in lidocaine jelly into the nasal cavity.
- Place the lubricated pH catheter into the preferred nasal cavity and advance slowly. Patients will often gag or cough once the probe passes through the nasopharynx.
- Once through the nasopharynx have the patient bend his/her head forward to guide the catheter into the esophagus, avoiding advancing the catheter into the trachea.
- Continue advancing the probe until the pH drops to less than 4, indicating the probe has passed into the stomach. Have the patient drink sips of water to facilitate passage of the probe in the esophagus.
- Once the pH registers < 4, pull the catheter back so that it is 5 cm above the LES based on the distance calculated by esophageal manometry.
- Tape the catheter securely to the nose and loop around the ear and down the patient’s neck toward the data recorder. Tape the catheter to the cheek and to the neck to keep it secure.