CLAIMS

1. A balloon dilator system, comprising:

a hand piece comprising an attachment mechanism for removably coupling to a proximal end of an endoscope;

a hole in a lateral side of the handpiece for inserting a distal end of a balloon catheter including an inflatable balloon; and

a hollow guide tube distally extending from the hand piece, a proximal end of the hollow guide tube configured to receive the balloon catheter when inserted through the hole and guide the balloon catheter such that the distal end of the balloon catheter exits a distal end of the hollow guide tube,

wherein the hollow guide tube is flexible and includes a curved distal end configured to couple to a flexible distal end of the endoscope, and the flexible distal end of the endoscope follows the curvature of the hollow guide tube when coupled to the curved distal end of the hollow guide tube.

2. The balloon dilator system of claim 1, further comprising: the balloon catheter, wherein the balloon catheter comprises a marking proximal to the balloon to endoscopically approximate a distance to insert the balloon catheter into an esophagus prior to inflating the balloon.

3. The balloon dilator system of claim 1, wherein the hand piece comprises a pump handle that, when actuated, pumps pressurized fluid to inflate the inflatable balloon.

4. The balloon dilator system of claim 3, wherein the hand piece further comprises: a pressure gauge configured to measure pressure of the pressurized fluid that is pumped to inflate the inflatable balloon; and a control that, when actuated, releases pressure and deflates the inflatable balloon.

5. The balloon dilator system of claim 4, further comprising: the endoscope.

6. The balloon dilator system of claim 1, further comprising: a removable insert configured to removably couple the flexible distal end of the endoscope to the curved distal end of the hollow guide tube, the removable insert comprising a first channel groove for removably coupling to the flexible distal end of the endoscope, and a second channel groove for removably coupling to the curved distal end of the hollow guide tube, wherein the removable insert is configured to conform to the curvature of the hollow guide tube.

7. The balloon dilator system of claim 1, wherein the attachment mechanism is a levered top down ratchet attachment mechanism for removably coupling the hand piece to a proximal end of an endoscope.

8. The balloon dilator system of claim 7, wherein the levered top down ratchet attachment mechanism is integrated on a top side of the hand piece and comprises a housing with an elongated open channel to removably couple the endoscope in a top-down manner.

9. The balloon dilator system of claim 8, wherein housing comprises:

vertically spaced ridges for receiving respective transverse slots of a rigid proximal attachment segment of the endoscope; and

a retractable interior protuberance located on the interior side surface of the open channel for engaging a longitudinal groove of the rigid proximal attachment segment of the endoscope.

10. The balloon dilator system of claim 1, wherein the attachment mechanism is an insert ratchet attachment mechanism integrated on a top side of the hand piece.

11. The balloon dilator system of claim 10, wherein the insert ratchet mechanism comprises an external housing with a channel including opening and exit apertures through which the endoscope can be inserted, the housing including a retractable interior protuberance configured to engage a transverse slot of the endoscope to secure the endoscope in place, the retractable interior protuberance configured to be actuated by an external housing button.