

Abstract

ENDOTRACHEAL TUBE POSITION ANOMALY ALERTING DEVICE

5 An endotracheal tube position anomaly alerting device, for monitoring
correctness of the position of an endotracheal tube (ETT), includes: a monitoring
module for collecting patients' chest X-ray image data; an object detection module for
detecting objects with a deep learning model of YOLO V5; a position evaluation
module for reading and determining, with an artificial intelligence (AI) algorithm
10 model, appropriateness of the position of the endotracheal tube according to a
detection result from the object detection module; and a display module for displaying
an evaluation result about endotracheal tube position appropriateness and sending
an alert for clinical reference as needed. The device assists clinical professionals in
quickly and accurately determining whether the position of the endotracheal tube is
15 appropriate, so as to reduce unplanned endotracheal tube detachment rate or
incidence rate of one lung ventilation (OLV), enhance medical care quality, and
enhance patients' safety and stability of vital signs.

(FIG. 1)