The aim of this study was to design, test, and validate a dual wavelength, diode laser-based, single optical fiber instrument that would accurately confirm PICC tip location at the cavoatrial junction of an animal heart, in vivo” Stringer et al (2017).

Abstract:

There are a limited number of methods to guide and confirm the placement of a peripherally-inserted central catheter (PICC) at the cavoatrial junction. The aim of this study was to design, test, and validate a dual wavelength, diode laser-based, single optical fiber instrument that would accurately confirm PICC tip location at the cavoatrial junction of an animal heart, in vivo.

This was accomplished by inserting the optical fiber into a PICC and ratiometrically comparing simultaneous visible and near-infrared reflection intensities of venous and atrial tissues found near the cavoatrial junction. The system was successful in placing the PICC line tip within 5 mm of the cavoatrial junction.

Reference:


Thank you to our partners for supporting IVTEAM