

X-Series Technical Training Agenda
 2 Day Biomed training class.

DAY ONE – Core Fundamentals / Technical & Clinical Overview.	
Introduction and Overview of ZOLL Medical	Class Introduction and history of ZOLL Medical.
Device Overview	Options, Accessories, Button Layout and device navigation.
Cardiac Anatomy and ECG Waveforms	Introduction to ECG waveforms, QRS Detection, Lead placement recommendations, ECG strip charts.
ECG Artifact / ECG Signal Processing	Overview of ECG artifact causes and troubleshooting. Filter settings for AC Mains, Monitor mode and 12 lead filtering reviewed. Patient Skin Prep and best practices for artifact free tracings.
SPO2 – Pulse Oximetry	Technical and clinical overview of Masimo SPO2 and Rainbow monitoring parameters. SPO2 settings, best practices and troubleshooting interference.
NIBP – Non Invasive Blood Pressure	Technical and clinical overview of NIBP operation, settings and best practices. Dual Lumen Vs. Single Lumen options along with Smartcuf operation.
IBP – Invasive Blood Pressure	Technical and clinical overview of IBP operation, settings and compatible consumables.
Temperature Monitoring	Technical and clinical overview of Temperature monitoring, operation, settings and compatible consumables.
ETCO2 – End Tidal Carbon Dioxide Monitoring	Technical and clinical overview of ETCO2 and configuration settings. Sidestream Vs. Mainstream monitoring explained.

Defibrillation Waveforms	Monophasic, Biphasic Truncated and Rectilinear waveforms explained. Joules Vs. Current, impedance compensation and tolerances for delivered energy / output testing.
Pediatric Defibrillation	Specifications for pediatric Defibrillation / Cardioversion.
Interfacing Hospital Systems	Recommendations for interfacing ZOLL defibrillators and bedside monitors.
SurePower Battery Overview / Battery Management	Overview of Lithium Ion SurePower batteries. Calibration, battery management and specifications.
Data Storage & Retrieval	Storage, retrieval and review of patient data files. Overview of RescueNet Code Review.
Device Configuration	Review of supervisor and service passcodes, device configuration, and importing / exporting configuration files.

DAY TWO – Preventative Maintenance & Introduction to Repair.	
ZOLL Service & Technical Support	Overview of ZOLL's technical service department, contacting technical support and review of our warranty programs.
Service Manual Review	Review of the service manual which includes preventative maintenance procedures, an exploded part diagram and information related to device troubleshooting.
Preventative Maintenance Procedures	Step by Step and guided review of the Preventative Maintenance procedures. This will include instructor led demonstration as well as hands on

	practice for students to become competent with the procedures.
Guided Disassembly / Reassembly	Hands on disassembly and reassembly of the device with guidance led by the class instructor.
Repair & Troubleshooting	Technical overview of device components and modules with a review of signal flow and functionality.
Q&A	Question and Answer session, program wrap up.