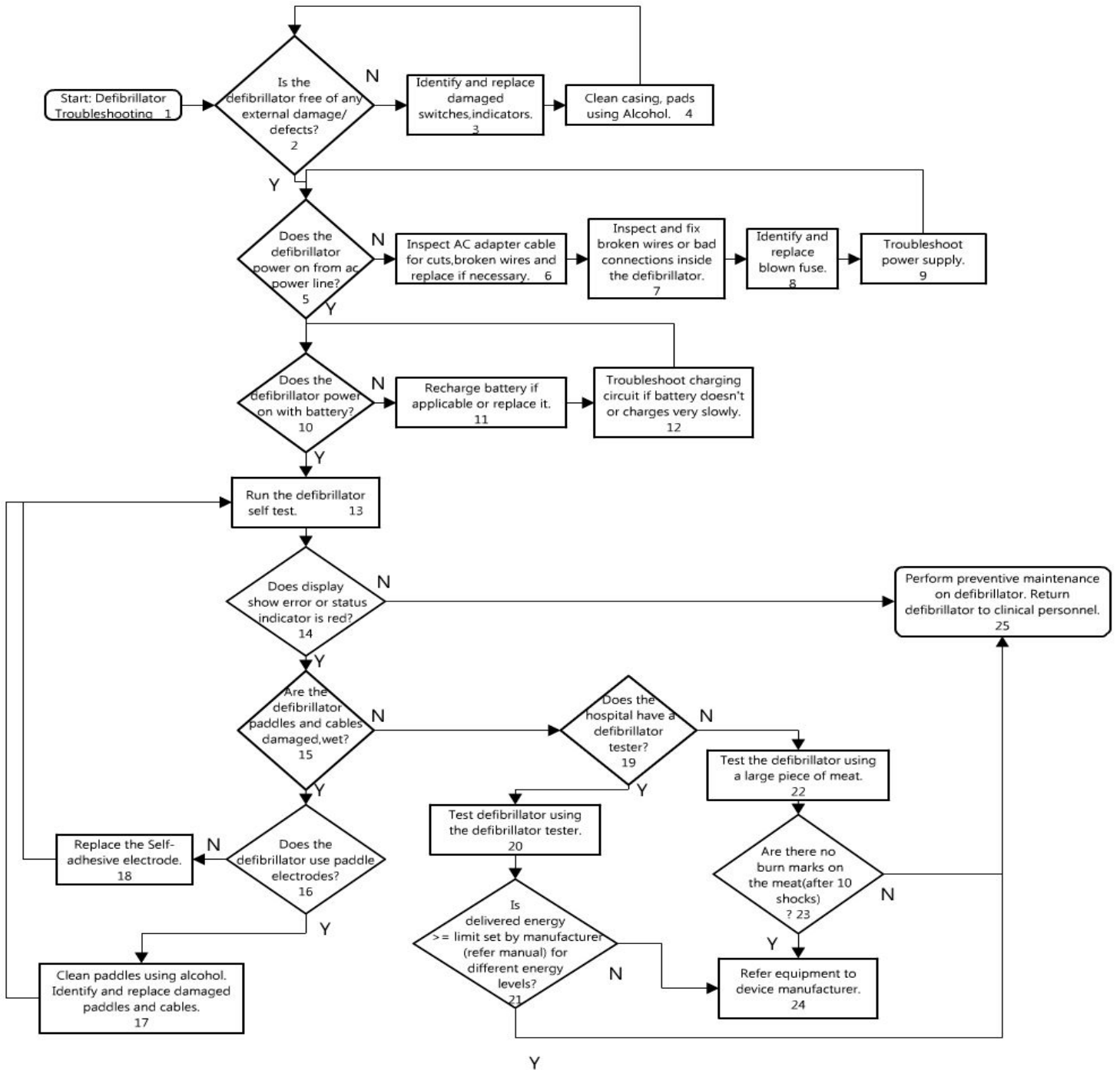


Defibrillator Troubleshooting and Repair



Description

	Text Box	Comments
1	Start: Defibrillator Troubleshooting.	Begin diagnostic process for a work order on Defibrillator
2	Is the defibrillator free of any external damage/defects?	Inspect defibrillator for external cracks, broken switch, knobs and indicators.
3	Identify and replace damaged switches, indicators.	See BTA skill set on Switches and Lighting/Indicators to identify and replace damaged switches and indicators.
4	Clean casing, pads using Alcohol.	Examine casing, pads and cables of defibrillator for gel and dirt. Refer BTA skill set on Cleaning to clean the defibrillator. If necessary, address damage to casing with BTA skills on Casing.
5	Does the defibrillator power on from ac power line?	Power the device from ac line and turn it on.
6	Inspect AC adapter cable for cuts, broken wires and replace if necessary.	See BTA skill set on Connections and Connectors for identifying and replacing damaged cables.
7	Inspect and fix broken wires or bad connections inside the defibrillator.	Inspect wires and connections from power supply circuit board to other boards using multimeter. See BTA skill set on Connections for identifying and fixing broken wires and bad connections.
8	Identify and replace blown fuse.	See BTA skill set on Fuse to identify and replace blown fuse.
9	Troubleshoot power supply.	Most defibrillators can power on from battery and ac power mains. See flowchart on Power Supply, and BTA skills on Power Supply.
10	Does the defibrillator power on with battery?	Disconnect defibrillator from ac power line. Turn the device on. <ul style="list-style-type: none"> • If battery/status indicator is red then battery needs to be charged or replaced (non-rechargeable). • If defibrillator fails to power on then battery is fully depleted or damaged.
11	Recharge battery if applicable or replace it.	See BTA skill set on Batteries to replace and identify damaged batteries.
12	Troubleshoot charging circuit if battery doesn't or charges very slowly.	See BTA skill set on Transformer and Regulators to troubleshoot charging circuit.
13	Run the defibrillator self-test.	Power the device from ac line and turn it on. The device will run an automatic self-test.
14	Does display show error or status indicator is red?	The result of the self-test will be displayed (on the screen) or status indicator will change red/green.

15	Are the defibrillator paddles and cables damaged, wet?	The paddles should be clean and dry. Inspect the pad cables and connectors for cuts and broken wires.
16	Does the defibrillator use paddle electrodes?	Paddle electrodes consist of a metal paddle with an insulated handle.
17	Clean paddles using alcohol. Identify and replace damaged paddles and cables.	Paddle electrodes are reusable and should be cleaned after every use. See BTA skill set on Connections and Connectors for identifying and replacing damaged cables.
18	Replace the Self-adhesive electrode.	Self-adhesive electrodes should be replaced after every use.
19	Does the hospital have a defibrillator tester?	Defibrillator testing can be done on a commercial tester or a large piece of meat.
20	Test defibrillator using the defibrillator tester.	Connect pads to defibrillator analyzer. Select energy and press charge button. Once charged push discharge button. Record delivered energy from display of defibrillator analyzer. Repeat the procedure for different energy levels.
21	Is delivered energy \geq limit set by manufacturer (refer manual) for different energy levels?	Improper functioning of internal circuitry if the defibrillator delivers less or no energy than the limit set by manufacturer.
22	Test the defibrillator using a large piece of meat.	Set energy to maximum and press charge button. Once charged place pads on a large piece of meat. Press discharge button. Repeat the procedure 10 times. The piece of meat should be large enough so that the defibrillator paddles can be placed greater than 6 inches apart.
23	Are there no burn marks on the meat (after 10 shocks)?	Failure of internal circuitry if no burn marks are found on the piece of meat.
24	Refer equipment to device manufacturer.	Refer equipment to device manufacturer for possible repair and replacement of internal circuitry components.
25	Perform preventive maintenance on defibrillator. Return defibrillator to clinical personnel.	Defibrillator is working properly. Perform preventive maintenance before returning the device to clinical personnel.